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.

“A mind stretched by a new idea can never go back to its original dimensions.”

— Oliver Wendell Holmes, Sr.  
AMERICAN PHYSICIAN, POET AND LECTURER, 1809-1894
Eastern Washington University
15th Annual Student Research & Creative Works Symposium

**Day One**  
**Tuesday, May 15, 2012**  
**4:30 p.m. – 9:00 p.m.**

Fine Arts Complex

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:30 p.m.</td>
<td>Welcome from President Rodolfo Arévalo and Dr. Lynn Briggs, dean of</td>
</tr>
<tr>
<td></td>
<td>the College of Arts, Letters &amp; Education</td>
</tr>
<tr>
<td></td>
<td><strong>Presenter Check-In Begins</strong></td>
</tr>
<tr>
<td></td>
<td>Art Building, Lobby and Entrance</td>
</tr>
<tr>
<td>4:30 - 8:00 p.m.</td>
<td><strong>Appetizers and Refreshments</strong></td>
</tr>
<tr>
<td></td>
<td>Art Building, Lobby</td>
</tr>
<tr>
<td>4:30 - 9:00 p.m.</td>
<td><strong>Art Exhibits</strong></td>
</tr>
<tr>
<td></td>
<td>Art Building, Gallery and Lobby</td>
</tr>
<tr>
<td>5:15 - 6:15 p.m.</td>
<td><strong>Music Composition Presentations</strong></td>
</tr>
<tr>
<td></td>
<td>Art Building, Gallery</td>
</tr>
<tr>
<td>6:30 - 9:00 p.m.</td>
<td>Film with Music Presentations</td>
</tr>
<tr>
<td></td>
<td>Radio-Television (RTV) Building, Room 221</td>
</tr>
<tr>
<td>6:30 - 9:15 p.m.</td>
<td>Film Presentations</td>
</tr>
<tr>
<td></td>
<td>Radio-Television (RTV) Building, Room 123</td>
</tr>
<tr>
<td>6:30 – 7:50 p.m.</td>
<td>Creative Writing Presentations</td>
</tr>
<tr>
<td></td>
<td>Art Building, Gallery</td>
</tr>
<tr>
<td>6:30 – 8:40 p.m.</td>
<td><strong>Theatre Presentations</strong></td>
</tr>
<tr>
<td></td>
<td>University Theatre, Room 207 and 2nd Floor Studio</td>
</tr>
</tbody>
</table>
Eastern Washington University
15th Annual Student Research & Creative Works Symposium

Day Two
Wednesday, May 16, 2012
8:00 a.m. – 5:00 p.m.

Senior Hall

7:30 a.m. Presenter Check-In Begins
Senior Hall Entrance

8:00 a.m. - 3:00 p.m. Information Tables: EWU Library, Graduate Studies, McNair Scholar Program, NCUR, Service Learning, The Easterner
Senior Hall Lobby

8:00 a.m. - 12:10 p.m. Morning Oral Presentations
Rooms 101, 106, 124, 201, 203, 204, 221, 243, 306

8:00 a.m. – 12:00 p.m. Morning Poster Presentations
2nd Floor Lounge, Rooms 302/304

Luncheon, Pence Union Building (PUB), MPR

12:00 - 1:30 p.m. Opening Remarks from Dr. Ron Dalla, Vice Provost, Graduate Education, Research, Academic Planning & Evaluation
Introduction by Dr. Judd Case, dean of the College of Science, Health and Engineering
Keynote Address, “Mentoring Through Research,” by Margaret (Peggy) O’Connell from the Department of Biology

Senior Hall

1:30 – 5:00 p.m. Afternoon Oral Presentations
Rooms 101, 106, 124, 201, 203, 204, 221, 243, 306

1:30 - 3:00 p.m. Afternoon Poster Presentations
2nd Floor Lounge, Rooms 302/304
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 Oliver Wendell Holmes, Sr. to exemplify this mission.

Oliver Wendell Holmes, Sr. was born on August 29, 1809 in Cambridge, Massachusetts. Holmes was an American physician, poet, professor, lecturer, and author. Holmes was one of the most popular writers in mid-nineteenth century America. His vision surrounding a variety of topics from poetics to medicine made him a widely regarded figure among several disciplines. Holmes attended Harvard University where he led research and advocated for medical reform.

Although sometimes a controversial figure, Holmes’ thought provoking prose influenced a variety of conversation, creativity, and scientific research. Holmes’ lectures spanned subjects such as "Medical Science as It Is or Has Been," "Lectures and Lecturing," and "English Poets of the Nineteenth Century." Holmes’ quote provides insight into how the research process and its findings can influence one’s understanding of the world they live in.
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  Vice Provost Ron Dalla
Dr. Peggy O’Connell  Dean Lynn Briggs  Dean Judd Case  Leslie Swannack

University Graphics: Larry Conboy & Judy McMillan
MARS Lab: Lance Walker & Staff
Records & Registration: Debbie Fockler & Staff
Information Technology: Kristi Duenas, Lee Urbaniak, Matt Brown & Staff
Dining Services and Event Planning: Tom Shaffer & Staff
Transportation Services: Dennis Hays & Staff
Marketing & Communications: Teresa Conway, Dave Meany & Staff
Printing Services, Sound Production, Paint Shop

Spokane Teachers Credit Union
for their generous donation and continued support

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

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 hear and discuss undergraduate and graduate creative and scholarly work.

2012 Symposium Committee Members

Helen Bergland, Faculty Support & Student Learning Assessment Coordinator, Undergraduate Studies
Larry Briggs, Associate Vice President, Enrollment Services
Kelley Cullen, Assistant Professor, Economics
Ron Dalla, Vice Provost, Graduate Education, Research, Academic Planning & Evaluation
Cynthia Dukich, Counselor/Academic Coordinator, McNair Scholars Program
Greg duMonthier, Assistant Professor, Art
Ruth Galm, Executive Director, Office of Grant & Research Development
Sara Goff, Assistant Professor, Theatre
Nikki Graham-Brown, Symposium Coordinator, Symposium Office
N.M. Awdad Hossain, Assistant Professor, Mechanical Engineering
Sarah Keller, Department Chair, Professor, Anthropology
Julie Marr, Advisor/Recruiter, Graduate Studies
Maria McGrew, Symposium Assistant Coordinator, Symposium Office
Christina Torres García, Director, McNair Scholars Program
Jonathan Middleton, Professor, Music
Pete Porter, Assistant Professor, Electronic Media & Film
Peter Spurgeon, Undergraduate Student Representative
Rayette Sterling, Librarian, EWU Libraries
Leslie Swannack, Administrative Assistant, Graduate Education, Research, Academic Planning & Evaluation
Rachel Toor, Assistant Professor, Creative Writing, Inland Northwest Center for Writers
The TRiO Ronald E. McNair
Post-baccalaureate Achievement Programs

As one of eight federally-funded TRiO outreach and student services programs, the goal of the TRiO Ronald E. McNair Post-baccalaureate Program is to increase the attainment of PhD degrees by students from underrepresented segments of society.

Funded by Congress through a grant from the U.S. Department of Education, TRiO McNair programs prepare eligible participants for successful doctoral studies by providing opportunities for research or other scholarly activities; summer internships; seminars and other educational activities designed for doctoral preparation; tutoring; academic counseling; and activities designed to assist participants in securing admission to and financial assistance for doctoral enrollment. Since 1995, eleven EWU McNair Scholars have earned doctorates, eighty-seven have earned master’s degrees and dozens are enrolled in graduate school.

Eastern’s TRiO McNair program first received funding in 1995, with the program’s faculty-mentored research internship a key component to its ongoing success. Each year up to fifteen selected McNair research interns conduct eight-week summer research projects under the guidance of faculty in their disciplines.

Research interns must produce a scholarly research paper and present their findings at a conference. This expectation has created an ongoing partnership between McNair and EWU’s Symposium, which was first organized in 1997 by EWU chemistry professor Dr. Jeanne Small (currently working with the National Science Foundation).

The 1997 Undergraduate Research and Creative Works Symposium consisted of 16 total oral presentations (9 were McNair scholars); 12 poster presentations (4 were McNair Scholars) and two musical performances. In 2001, McNair Director Dr. Karen McKinney (now retired) took over coordination with the support of Dr. Ron Dalla and the help of a graduate assistant. Dr. McKinney coordinated the event through 2005 in Monroe Hall, by which time the Symposium had grown to 145 presenters.

The Symposium was moved to Senior Hall in 2006, and since then the event has grown to become a marquee event on campus. This year the 15th Annual Student Research & Creative Works Symposium will be the largest Symposium to date. Coordinated by graduate assistant Nikki Graham-Brown under Dr. Ron Dalla in Graduate Education, Research, Academic Planning and Evaluation, the event will include 482 presenters, among them the following McNair Scholars, listed with their dedicated faculty research mentors.
<table>
<thead>
<tr>
<th>McNair Scholars</th>
<th>McNair Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esmeralda Adolf</td>
<td>Jonathan Anderson, Associate Professor of Psychology</td>
</tr>
<tr>
<td>Anthony Austin-Walker</td>
<td>Georgia Bazemore, Assistant Professor of History</td>
</tr>
<tr>
<td>Cheryl Dykstra-Aiello</td>
<td>Karen Carlberg, Professor of Biology</td>
</tr>
<tr>
<td>Kyra Gaines</td>
<td>Robert Bartlett, Interim Director of Africana Studies</td>
</tr>
<tr>
<td>Theresa Lynne Harkness</td>
<td>Jonathan Anderson, Associate Professor of Psychology</td>
</tr>
<tr>
<td>Angelica Hill</td>
<td>Martín Meraz-Garcia, Assistant Professor of Chicano Studies</td>
</tr>
<tr>
<td>Nathan Lewis</td>
<td>Mary Ann Keogh Hoss, Associate Professor of Health Service Administration</td>
</tr>
<tr>
<td>Andrew Pereira</td>
<td>Philip Watkins, Professor of Psychology</td>
</tr>
<tr>
<td>Ioannis Pikalov</td>
<td>Wes Steiner, Assistant Professor of Chemistry and Biochemistry</td>
</tr>
<tr>
<td>Vera Pikalova</td>
<td>Luis Matos, Faculty of Biology</td>
</tr>
<tr>
<td>Liliya Rudneva</td>
<td>Dorothy Munson, Assistant Professor of Counseling, Educational &amp; Developmental Psychology</td>
</tr>
<tr>
<td>Ghyneceee’ Temple</td>
<td>Kayleen Islam-Zwart, Professor of Psychology</td>
</tr>
<tr>
<td>Benita Rachael Walker</td>
<td>Kelley Cullen, Assistant Professor of Economics</td>
</tr>
</tbody>
</table>

McNair prepares low-income, first-generation and/or underrepresented minority undergraduates for success in doctoral programs by providing scholarly activities and community engagement that empower participants to become agents of positive change in a culturally diverse world.
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.

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, 22 EWU students representing various disciplines participated in the 26th annual conference at Weber State University in Ogden, Utah. An NCUR volunteer will be available to discuss this year’s conference and provide information about the 2013 NCUR, to be held at the University of Wisconsin–La Crosse.

The Easterner
The Easterner, the student news organization at Eastern Washington University, has existed in one form or another since 1916. Not only is it a source of student-oriented content, but it is a platform for free speech, where students and the surrounding community can debate topics and share in the marketplace of ideas. This student-led organization presently has about 30 people on staff, excluding contributing writers. At The Easterner’s table, participants will find recent issues, information about advertising, and staff that can take your story ideas and answer questions.
# Table of Contents

Keynote Speaker ........................................................................................................... 10

Tuesday, May 15th Creative Works Presentation Schedule ........................................ 11

  Sessions 1-6: Art Complex ....................................................................................... 12-15

Wednesday, May 16th Oral Presentation Schedule .................................................... 16

  Morning Sessions 1-12: Senior Hall ..................................................................... 17-25

  Afternoon Sessions 13-23: Senior Hall ................................................................. 26-33

Wednesday, May 16th Poster Presentation Schedule ................................................ 16

  Morning Sessions 1-4: Senior Hall ..................................................................... 34-35

  Afternoon Sessions 5-6: Senior Hall ................................................................. 27-29

Presenter Abstracts & Creative Works Descriptions .................................................... 30-145
Mentoring Through Research

Many of us have been fortunate to benefit from a mentor who has helped shape our educational and professional journey. The term “mentor” has its origins in Homer’s *Odyssey* but has taken on many meanings over time. In academia, the vehicle for mentorship is often through the shared research experience. Whether it is part of a class project or a Master’s thesis, the process of designing and executing research creates a partnership. One of the potential joys of a mentoring relationship is that it has no formal end point because its goal is to transform a protégé into a colleague. In this presentation, I explore the role of mentoring in undergraduate and graduate education by telling stories about how my mentors helped shape my career, reviewing studies on the role of research mentorship in higher education, and sharing what I have learned through mentoring undergraduate and graduate students.

Biography

Dr. Margaret (Peggy) O’Connell’s undergraduate education at Prescott College in Arizona played an important role in developing her approach to teaching and mentoring. The college incorporated an honor system with a blend of academics and experiential learning. For example, her capstone class was rafting the Colorado River through the Grand Canyon while studying the Biology, Geology, and Anthropology of the canyon. From Prescott, she moved to Texas Tech University for her Masters in Zoology where she conducted research on the ecology of two species kangaroo rats in the Chihuahua Desert and discovered that she loved teaching Biology. Next a Smithsonian pre-doctoral fellowship enabled her to spend 2 ½ years in Venezuela studying the population ecology of tropical rodents and marsupials. After receiving her PhD from Texas Tech she worked at the National Zoo in Washington DC for several years before moving to Washington State. She joined the Department of Biology at EWU in 1991 where she teaches courses in vertebrate zoology, conservation biology, wildlife management, mammalogy, and ornithology and, currently, chairs the department. She, with her colleagues and students, has conducted numerous research projects that focus on wildlife response to habitat conditions in the Inland Northwest. Currently they are working with Native American Tribes in the region to restore degraded habitats and monitor vertebrate response to the habitat restoration. Dr. O’Connell has mentored 24 Masters students whose thesis research projects have included ecology and behavior of bats, elk use of Turnbull National Wildlife Refuge, habitat selection by nesting and overwintering cavity-nesting birds, coyote abundance along an urban to wildland gradient, facilitation of invasive bluegill fish and bullfrogs, use of magnetoreception by pocket gophers, factors shaping shrew community structure, and predation on bird nests under different habitat conditions.
Creative Works Presentation Schedule

Tuesday, May 15, 2012
4:30 p.m. – 9:15 p.m.
Arts Complex

4:30 – 9:00 p.m.  **Session 1: Art Exhibits***
*Art Building: Gallery and Lobby*

5:15 – 6:15 p.m.  **Session 2: Music Composition**
*Art Building: Gallery*

6:30 – 9:15 p.m.  **Session 3: Film with Music**
*Radio-Television (RTV) Building: Room 221*

6:30 – 9:00 p.m.  **Session 4: Film**
*Radio-Television (RTV) Building: Room 123*

6:30 – 7:50 p.m.  **Session 5: Creative Writing**
*Art Building: Gallery*

6:30 – 8:40 p.m.  **Session 6: Theatre**
*University Theatre: 2nd Floor Studio and Stage*

*Symposium Art Exhibits will remain on display in the Art Building Gallery and Lobby throughout the day on Wednesday, May 16, 2012.*
## Creative Works Session 1: Art
Art Building Gallery and Lobby, 4:30 p.m. – 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</td>
<td>Lauren Thomas</td>
<td>Untitled</td>
<td>Tom Askman</td>
</tr>
<tr>
<td></td>
<td>Kelsey Vance</td>
<td>Untitled</td>
<td>Tom Askman</td>
</tr>
<tr>
<td></td>
<td>Teresa M. Asbury</td>
<td><em>Imposition</em></td>
<td>Greg duMonthier</td>
</tr>
<tr>
<td></td>
<td>Nicholas Stewart</td>
<td>Untitled</td>
<td>Tom Askman</td>
</tr>
<tr>
<td></td>
<td>Eric Edvalson</td>
<td><em>Quiver</em></td>
<td>Greg duMonthier</td>
</tr>
<tr>
<td>9:00</td>
<td>Erin Mielcarek</td>
<td>Untitled</td>
<td>Chris Tyllia</td>
</tr>
<tr>
<td></td>
<td>Andrew Taylor</td>
<td><em>Dwight Macdonald, [the lovable Boswell who annotates my old laundry slips], drinks tea.</em></td>
<td>Chris Tyllia, Tom Askman</td>
</tr>
<tr>
<td></td>
<td>Erin Pallai</td>
<td><em>Rusty/Nachtmahr</em></td>
<td>Greg duMonthier</td>
</tr>
<tr>
<td></td>
<td>Matthew Preston</td>
<td><em>Of towers and things...</em></td>
<td>Chris Tyllia</td>
</tr>
<tr>
<td></td>
<td>Robert Heagy</td>
<td>Untitled #27</td>
<td>Greg duMonthier</td>
</tr>
<tr>
<td></td>
<td>Megan Delzell</td>
<td><em>An Exploration of Color Field: Form and Process</em></td>
<td>Jamie Hahn, Tom Askman</td>
</tr>
<tr>
<td></td>
<td>Courtney Hammond</td>
<td><em>Chance</em></td>
<td>Garric Simonsen</td>
</tr>
<tr>
<td></td>
<td>Jamin Kuhn</td>
<td><em>Anonymous Loops</em></td>
<td>Garric Simonsen</td>
</tr>
<tr>
<td></td>
<td>Anna Fry</td>
<td>Untitled</td>
<td>Jamie Hahn</td>
</tr>
</tbody>
</table>

## Creative Works Session 2: Music Composition
Art Building Gallery, 5:15 p.m. – 6:15 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Composer/Performer</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:15</td>
<td>K. Michael Fox</td>
<td><em>Post-Vitionian Impressions</em></td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>5:35</td>
<td>Davis Hill</td>
<td><em>Sundance</em></td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>5:55</td>
<td>Michael Gerety, Composer</td>
<td><em>Caught in a Storm</em></td>
<td>Jonathan Middleton, Don Goodwin</td>
</tr>
<tr>
<td></td>
<td>Alek Gayton, Colin Menning, Jordan Gilman, Davis Hill, Performers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Creative Works Session 3: Film with Music

**RTV Building, Room 221, 6:30 p.m. – 9:15 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Composer/Filmmaker</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
</table>
| 6:30  | Chandler Johnson, Composer  
        PJ Hanson, Filmmaker | Corners         | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 6:45  | K. Michael Fox, Composer  
        Kaylee Hardin, Filmmaker | Apologies       | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 7:00  | Davis Hill, Composer  
        Ben Johnson, Filmmaker | Don’t Be Late   | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 7:15  | Henry McNulty, Composer  
        Logan Stoodley, Filmmaker | Blind          | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 7:30  | Mark Morrison, Composer  
        Krystal Alexander, Filmmaker | Animal Jackers  | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 7:45  | Break               |                |                                       |
| 8:00  | Matt Peters, Composer  
        Jake Moe, Filmmaker | Listen Through Me | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 8:15  | Ty Pfundheller, Michael Gerety, Co-Composers  
        Cierra Castleberry, Filmmaker | Red Solo Cup    | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 8:30  | Yasas Amarasinghe, Composer  
        Colin Boley, Filmmaker | The Unspoken Envelope | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 8:45  | Tyler Dines, K. Michael Fox, Co-Composers  
        Shay Smith, Filmmaker | Black & Blue    | Jonathan Middleton  
                                          Sarah Lee Monroe |
| 9:00  | Michael Gerety, Composer  
        James Olson, Filmmaker | Long Play       | Jonathan Middleton  
                                          Sarah Lee Monroe |
### Creative Works Session 4: Film
RTV Building, Room 123, 6:30 p.m. – 9:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Filmmaker</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30</td>
<td>Douglas Ault</td>
<td><em>It Sustains Me</em></td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>6:50</td>
<td>Keegan McClung</td>
<td><em>The Beedles</em></td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>7:10</td>
<td>Dave Kotlan</td>
<td><em>Hot to Kill an Alias</em></td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>7:30</td>
<td>Seth Mead</td>
<td><em>The Mirage</em></td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>7:50</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>8:05</td>
<td>Dave Kotlan</td>
<td><em>Daniel/Saint Daniel</em></td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>8:30</td>
<td>Dave Kotlan, Seth Mead</td>
<td><em>TOAST</em></td>
<td>Tom Mullin</td>
</tr>
</tbody>
</table>

### Creative Works Session 5: Creative Writing
Art Building Gallery, 6:30 p.m. – 7:50 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30</td>
<td>Briana Lummus-Ekborg</td>
<td>“Cotton Song”</td>
<td>Judy Logan</td>
</tr>
<tr>
<td>6:50</td>
<td>Rachel Hartley-Smith</td>
<td>Creative Nonfiction</td>
<td>Natalie Kusz</td>
</tr>
<tr>
<td>7:10</td>
<td>Amanda Maule</td>
<td>Humor of Redefinition: Hybridizing Creative Nonfiction and</td>
<td>Natalie Kusz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standup Comedy</td>
<td></td>
</tr>
<tr>
<td>7:30</td>
<td>Bergen McCurdy</td>
<td><em>The Frostblaukugel of Himmelsward—A Reading</em></td>
<td>LaVona Reeves</td>
</tr>
</tbody>
</table>
# Creative Works Session 6: Theatre

University Theatre, 2\textsuperscript{nd} Floor Studio and Stage, 6:30 p.m. – 8:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Actor/ Designer/Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
</table>
| 6:30 to 7:30 | Chelsey Miles | A Monologue from William Shakespeare’s *A Midsummer Night’s Dream* | Sara Goff
| | Paden Vance | Acting: The Profession—Monologue Package | Sara Goff
| | Justin Schlabach, Christopher Rounsville | Irene Ryan Scenes for the American College Theatre Festival | Sara Goff
| | Justin Schlabach, Christopher Rounsville | Audition Package from Theatre 412 (Acting: The Profession) | Jeffrey Saunders
| | Ross McCrorie, Lexi Hoffpauir | *Proof* Scene | Sara Goff
| | Rebecca Spining, Melissa Gren, Joel Chiswell, Elizabeth Carlson, Cody Bray, Bryn Butler | *Welcome Home: A Devised Theatre Project* | Sara Goff
| | Justin Schlabach, Blaine Nicholls, Cody Bray | *Thrill Me: The Leopold and Loeb Story*, Scene 1 | Sara Goff
| | Stacia Bruner, Alexandra Rannow, Aaron Taylor, Joshua Taylor, Marlee Andrews, Lexi Hoffpauir, Kyle Kahklen, Jordan Wood | “You Can’t Stop the Beat”—*Hairspray* | Jeffrey Saunders
| 7:30 | **Break** | | |

**Theatre**

<table>
<thead>
<tr>
<th>Time</th>
<th>Actor/ Designer/Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
</table>
| 7:40 to 8:40 | Coby Woodruff, Teko Dumolin, Frankie Breland, Seth Becker, Joel Zepeda, Justin Schlabach | Set and Costume Viewing from the Spring Quarter Production *In the Next Room or The Vibrator Play* | Shana Joslyn (Faculty)
| | Julisa Aguilar, Brenda Aguilar, Janet Martinez, Chelsey Miles, Adrianne Wilson, Rebecca Spining | | Set/Lighting Design, Jessica Ray (Theatre Staff) Costume Design
| | *Costume Construction* | | |

**Set and Costume Viewing from the Spring Quarter Production**

- *In the Next Room or The Vibrator Play*
- *Set/Lighting Design*
- *Costume Design*
Oral & Poster Research Presentation
Schedule

Wednesday, May 16, 2012
8:00 a.m. – 5:00 p.m.
Senior Hall

8:00 a.m. - 12:00 p.m.  Morning Oral Sessions: 1-12
(Rooms 101, 106, 124, 201, 203, 204, 221, 243, 306)

8:00 a.m. – 9:45 a.m.  Morning Poster Sessions: 1-2
(2nd Floor Lounge, Room 302/304)

10:15 a.m. – 12:00 p.m. Morning Poster Session: 3-4
(2nd Floor Lounge, Room 302/304)

1:30 – 5:00 p.m.  Afternoon Oral Sessions: 13-23
(Rooms 101, 106, 124, 201, 203, 204, 221, 243, 306)

1:30 - 3:00 p.m.  Afternoon Poster Sessions: 5-6
(2nd Floor Lounge, Room 302/304)
**Oral Session 1: Psychology I**  
Room 101, 8:00 a.m. – 12:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Theresa Harkness</td>
<td>The Effect Attention Deficits Have on Time Estimation</td>
<td>Jonathan Anderson</td>
</tr>
<tr>
<td>8:20</td>
<td>Esmeralda Adolf</td>
<td>The Impact of Age on Time Estimation</td>
<td>Jonathan Anderson</td>
</tr>
<tr>
<td>8:40</td>
<td>Shanna Bartholomew</td>
<td>The Effects of Mindfulness on Risk Perception in College Females</td>
<td>Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>9:00</td>
<td>Elaine Appleby</td>
<td>Stay Off the Grass! Deontic Norms and Conditional Adherence of Defined Paths</td>
<td>Lori Miller</td>
</tr>
<tr>
<td>9:20</td>
<td>Rebecca Arens</td>
<td>Surviving Endometriosis</td>
<td>Philip Watkins</td>
</tr>
<tr>
<td>9:40</td>
<td>Chelsea Joynes</td>
<td>The Effects of Discrimination on Trait Reactance: A Study from the Thesis of Nathaniel S. Wareham</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>10:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td>Andrew Pereira</td>
<td>Gratitude Toward God: An Exploration of Religiosity, Gratitude and Happiness</td>
<td>Philip Watkins</td>
</tr>
<tr>
<td>10:40</td>
<td>Nicole Sestrap, Shannon Shiells</td>
<td>Are Individuals More Positively Biased Toward Themselves or Their Relationship Partners?</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>11:00</td>
<td>Jay Mattson, Anna Maryott, Richard Turner</td>
<td>Digit Span and Academia</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>11:20</td>
<td>Jason McAllister</td>
<td>Cultural Views and Death</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>11:40</td>
<td>Juline Girts</td>
<td>Health and Self-Perception</td>
<td>Theresa Martin</td>
</tr>
</tbody>
</table>
## Oral Session 2: Education (interactive)
**Room 124, 8:00 a.m. – 9:45 a.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 to</td>
<td>Danica Wick, Stacey Baker, Beth Bauer, Christina Jordan</td>
<td>Llama Manure</td>
<td>Rodger Hauge</td>
</tr>
<tr>
<td>9:45</td>
<td>Shannon Murphy, Rachel St. Amand</td>
<td>Wind Machine Blade Length</td>
<td>Rodger Hauge</td>
</tr>
<tr>
<td></td>
<td>Stacia Gross, Laci Sweetland, Samantha Holtsclaw, Mark Huyler, Patricia Atrill</td>
<td>Solar Cooking—Utilizing the Sun</td>
<td>Rodger Hauge</td>
</tr>
<tr>
<td></td>
<td>Dustie Beierle, Kathleen Puhlman, Courtney Bryant</td>
<td>Solar Panel Efficiencies</td>
<td>Rodger Hauge</td>
</tr>
<tr>
<td></td>
<td>Shawna Brady, Corissa Blix, Racheal Ryser, Rachel Binger, Jamie Lawrence</td>
<td>Solar Race Cars</td>
<td>Rodger Hauge</td>
</tr>
<tr>
<td></td>
<td>Tyler Colean, Johnell Agee, Lisia Stuart, Daniel Garza, Derek Funk</td>
<td>Wind Generator Blade Design</td>
<td>Rodger Hauge</td>
</tr>
</tbody>
</table>

## Oral Session 3: Computer Science and Engineering & Design (interactive)
**Room 124, 10:15 a.m. – 12:00 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15 to</td>
<td>Joseph Pallaria III</td>
<td>3D Character Animation and Design</td>
<td>Brian Kamp</td>
</tr>
<tr>
<td></td>
<td>Nick Hillstrom, Nick Lefave</td>
<td>3D Campus Tour</td>
<td>Brian Kamp</td>
</tr>
<tr>
<td></td>
<td>Victor Colton, John Smith</td>
<td>Asteroids Game</td>
<td>Kosuke Imamura</td>
</tr>
<tr>
<td></td>
<td>CJ Grijalva, Saleh Tafesh, Ranzel Negrillo</td>
<td>The Design and Manufacturing Process of a Paper Bike in the HPPV Competition</td>
<td>Awlad Hossain, Martin Weiser</td>
</tr>
<tr>
<td>12:00</td>
<td>Brandt Porter, Jared Schiff, Paul Brockman, Caleb Mazzola, Kyle Murray</td>
<td>The Beer Bottling Robot</td>
<td>Donald Richter</td>
</tr>
<tr>
<td></td>
<td>Frederick Rollins, Tonya Gaddy, Joseph Cluever, Daryl Smith, Cody Gary</td>
<td>Human Powered Paper Vehicle—by The Recyclers</td>
<td>Martin Weiser, Awlad Hossain</td>
</tr>
</tbody>
</table>
### Oral Session 4: Fine Arts

**Room 106, 8:00 a.m. – 12:00 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Bridget Freeman Wamsley</td>
<td>Is Renaissance Faire? Game Show</td>
<td>Barbara Miller</td>
</tr>
<tr>
<td>8:20</td>
<td>Kun-Wen Chen</td>
<td>Traditional and Contemporary Music of Taiwan</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>8:40</td>
<td>Sage Bilderback</td>
<td>Heisenberg and Breaking Bad</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>9:00</td>
<td>Douglas Ault</td>
<td>The Elements of Breaking Bad; Giving the Credits Some Credit</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>9:20</td>
<td>Britta Moran</td>
<td>I Am a Blowfish</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>9:40</td>
<td>John Rogers</td>
<td>Ideology in <em>A History of Violence</em></td>
<td>Pete Porter</td>
</tr>
<tr>
<td>10:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td>Christopher Neir</td>
<td><em>Wall-E: A Tale of Love That Transcends Manufacturing</em></td>
<td>Pete Porter</td>
</tr>
<tr>
<td>10:40</td>
<td>Joseph Stageberg</td>
<td>The Historical Significance of F.W. Murnau’s <em>Sunrise</em> (1927)</td>
<td>Pete Porter</td>
</tr>
<tr>
<td>11:00</td>
<td>Mao Ogura</td>
<td>Tea Ceremony, One of the Three Traditional Japanese Arts</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>11:20</td>
<td>Saki Murakami</td>
<td>The Kimono in Modern Japan—Customs and Symbolic Meanings</td>
<td>LaVona Reeves</td>
</tr>
</tbody>
</table>
# Oral Session 5: Anthropology

Room 201, 8:00 a.m. – 12:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Hiroko Abe</td>
<td>The History of the Kimono in Japan</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>8:20</td>
<td>Ahmed Alneel, Fahad Alotaibi</td>
<td>Historical Mosques in Saudi Arabia</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>8:40</td>
<td>Anne Parsons</td>
<td>Susto from a Medical Anthropological Perspective</td>
<td>Jerry Galm</td>
</tr>
<tr>
<td>9:00</td>
<td>Noah Baker</td>
<td>Joseph Stalin’s Famine</td>
<td>Jerry Galm</td>
</tr>
<tr>
<td>9:20</td>
<td>Ashely McSpadden</td>
<td>Post-Socialist Mongolia: Examining Socioeconomic Disparity in an Emerging Democracy</td>
<td>Tom Hawley, Michael Zukosky</td>
</tr>
<tr>
<td>9:40</td>
<td>Ali Alghumlas</td>
<td>Tribal Influence on Family Life in Saudi Arabia</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>10:00</td>
<td><strong>Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td>Brina Smith</td>
<td>Misperceptions Between Street Kids and Business Owners/Managers in Downtown Spokane, Washington</td>
<td>Sarah Keller</td>
</tr>
<tr>
<td>10:40</td>
<td>Cory Davis</td>
<td>From Dig to Display: Archaeology as Context and Exhibition</td>
<td>Michael Zukosky</td>
</tr>
<tr>
<td>11:00</td>
<td>Grace Cooper</td>
<td>A Sociolinguist Perspective on Spanglish</td>
<td>Michael Zukosky</td>
</tr>
<tr>
<td>11:20</td>
<td>Michael Walstrom</td>
<td>The Social Evolution of Hindustani Art Music</td>
<td>Michael Zukosky</td>
</tr>
</tbody>
</table>
### Oral Session 6: Philosophy
**Room 203, 8:00 a.m. – 12:00 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Frankie Viner</td>
<td>Women, Power, and the Cautionary Tale of the Zombie Stripper</td>
<td>Mimi Marinucci</td>
</tr>
<tr>
<td>8:20</td>
<td>Kadija Sesay</td>
<td>The Supposed Other: The Orientalization of Women of Color</td>
<td>Kevin Decker, Mimi Marinucci</td>
</tr>
<tr>
<td>8:40</td>
<td>Nita Rektor</td>
<td>Being-in-the-World</td>
<td>Kevin Decker</td>
</tr>
<tr>
<td>9:00</td>
<td>Hannah Heilman</td>
<td><em>Fight Club</em> and Zen Philosophy</td>
<td>Christopher Kirby</td>
</tr>
<tr>
<td>9:20</td>
<td>David Collins</td>
<td>Towards a Rethinking of the Occupy Movement</td>
<td>Mimi Marinucci, Christopher Kirby</td>
</tr>
<tr>
<td>9:40</td>
<td>Christofer Koch</td>
<td>Analytic Statements: A Response to Quine</td>
<td>Mimi Marinucci</td>
</tr>
<tr>
<td>10:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td>Christina Bowman</td>
<td>(Hume)an Identity: The Passionate Meme</td>
<td>Kevin Decker, Mimi Marinucci</td>
</tr>
<tr>
<td>10:40</td>
<td>Larkin Mullin</td>
<td>Ancient Egypt and Free Will</td>
<td>David Weise</td>
</tr>
<tr>
<td>11:00</td>
<td>Nicholas Ettel</td>
<td>The Condemnation of Freedom and the Exit Out</td>
<td>Kevin Decker</td>
</tr>
<tr>
<td>11:20</td>
<td>Jason Dietzel</td>
<td>The Benefits of Death</td>
<td>Kevin Decker, Mimi Marinucci</td>
</tr>
<tr>
<td>11:40</td>
<td>Abdullah Alsalim, Rakan Aljehni</td>
<td>Reflections on Ramadan and Eid</td>
<td>LaVona Reeves</td>
</tr>
</tbody>
</table>

### Oral Session 7: Chemistry and Biochemistry I
**Room 204, 8:00 a.m. – 9:20 a.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Ioannis Pikalov</td>
<td>Development of a Novel LC/MS/MS Extraction Assay for Galanthamine in Guinea Pig Plasma and Its Application to Nerve Agent Countermeasures</td>
<td>Wes Steiner</td>
</tr>
<tr>
<td>8:20</td>
<td>Kim James</td>
<td>Discovery That Bioterrorism Pathogen Agent <em>Rickettsia prowazekii</em> Lacks Key Enzymes in the Non-Canonical Purine Repair Pathway</td>
<td>Nicholas Burgis</td>
</tr>
<tr>
<td>8:40</td>
<td>Ashley Hughes</td>
<td>Smoking Cessation: Saving Lives One CYP2A6 at a Time</td>
<td>Travis Denton</td>
</tr>
<tr>
<td>9:00</td>
<td>Donovan Adpressa</td>
<td>Synthesis and Antimicrobial Efficacy of N-Alkylbis(3-acetamidopropyl)-N-alkylammonium Halides</td>
<td>Travis Denton</td>
</tr>
</tbody>
</table>
## Oral Session 8: Biology
Room 204, 9:40 a.m. – 12:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:40</td>
<td>Aaron Stroud</td>
<td>The Use of Diagnostic Bones to Identify Bull Trout (<em>Salvelinus confluentus</em>) in Piscivore Diets</td>
<td>Allan Scholz</td>
</tr>
<tr>
<td>10:00</td>
<td>Michael Vaughan</td>
<td>The Difference in Length Between Right and Left Side Head Bones in Bull Trout (<em>Salvelinus confluentus</em>) and Creation of a Bull Trout Bone Key</td>
<td>Allan Scholz</td>
</tr>
<tr>
<td>10:20</td>
<td>Dustin Cousins</td>
<td>The Underground Movement: Sensory Modalities Utilized in Foraging and Navigation by Pocket Gophers</td>
<td>Margaret O’Connell</td>
</tr>
<tr>
<td>10:40</td>
<td>Sarah Stankavich</td>
<td>Factors Affecting Foraging Activity of Bats over Wetlands</td>
<td>Margaret O’Connell</td>
</tr>
<tr>
<td>11:00</td>
<td>Abrar Sindi</td>
<td>Effect of Contraceptive Steroids on Blood Pressure and the Renin Aldosterone System in Rats</td>
<td>Karen Carlberg</td>
</tr>
<tr>
<td>11:20</td>
<td>Adam Gebauer</td>
<td>Ecohydrology of Reed Canary Grass (<em>Phalaris arundinacea</em>)</td>
<td>Rebecca Brown</td>
</tr>
<tr>
<td>11:40</td>
<td>Kristin Anicito</td>
<td>An Ecologically Based Invasive Plant Management Approach to Prairie Restoration on Mima Mounds at Turnbull National Wildlife Refuge</td>
<td>Rebecca Brown</td>
</tr>
</tbody>
</table>
## Oral Session 9: English I
Room 221, 8:00 a.m. – 12:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Summer Hess</td>
<td>Atacama Dreams: My Year as a Fulbright Scholar in Northern Chile</td>
<td>Natalie Kusz</td>
</tr>
<tr>
<td>8:20</td>
<td>Morgan Garratt</td>
<td>Adaptive Narrations: The Conversion of Classic Literature to Graphic Novel</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>8:40</td>
<td>Christina Bowman</td>
<td>Tradition, Literature and Ecofeminism</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>9:00</td>
<td>Heather Freeman</td>
<td>The Over-Sexualization of Women in Comic Books</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>9:20</td>
<td>Eric Iliff</td>
<td>Monsters, Margins, Deformity and the Self</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>9:40</td>
<td>Shannon Mauldin</td>
<td>Hero, Traitor, Siren: Myth Archetypes in Shakespeare’s <em>Troilus and Cressida</em></td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td>Janice Wright</td>
<td>Withheld Love in “Hills Like White Elephants”</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>10:40</td>
<td>Casey Martin</td>
<td>Hemingway’s Ladies</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>11:00</td>
<td>Krista Sweeney</td>
<td>Complexity of “Saint Marie” Lazarre</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>11:20</td>
<td>Jacqueline Smithley</td>
<td>Nature Imagery and Characterization in a Steinbeck Story</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>11:40</td>
<td>Kurt Olson</td>
<td>“General William Booth Enters into Heaven” and the Re-envisioning of Poetic Style Through “Are You Washed in the Blood”</td>
<td>Paul Lindholdt</td>
</tr>
</tbody>
</table>
## Oral Session 10: Engineering & Design
Room 243, 8:00 a.m. – 10:20 a.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Joseph Cluever</td>
<td>Finite Element Analysis of Orthotropic Materials</td>
<td>Awlad Hossain</td>
</tr>
<tr>
<td>8:20</td>
<td>Saleh Tafesh</td>
<td>Understanding the Concept of Shear Locking for Proper Bending and Fatigue Analysis of a Cantilever Beam with Applications to Wind Turbine Blades</td>
<td>Awlad Hossain</td>
</tr>
<tr>
<td>8:40</td>
<td>Joseph Cluever, Cody Gary</td>
<td>Testing Rocket Propellant Mixtures</td>
<td>Martin Weiser</td>
</tr>
<tr>
<td>9:00</td>
<td>Shaun Kimm</td>
<td>Finite Element Analysis of Railroad Components</td>
<td>Awlad Hossain</td>
</tr>
<tr>
<td>9:20</td>
<td>Vadim Derkachev</td>
<td>Thermal Analysis of a Halogen Light Fixture</td>
<td>Awlad Hossain</td>
</tr>
<tr>
<td>9:40</td>
<td>Jessica Korgel</td>
<td>Orthopedic Plates and Bone Screws</td>
<td>Awlad Hossain</td>
</tr>
<tr>
<td>10:00</td>
<td>John Milton, Tomas Armenta</td>
<td>Optimization of a Modular High Speed Motion Tracking Pneumatic Robotic System</td>
<td>Awlad Hossain, Martin Weiser</td>
</tr>
</tbody>
</table>

## Oral Session 11: English II
Room 243, 10:40 a.m. – 12:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40</td>
<td>Courtney Harler</td>
<td>The Lactation of Saint Bernard in Art and Literature: “Show Thyself a Mother”</td>
<td>Logan Greene</td>
</tr>
<tr>
<td>11:00</td>
<td>Kirsten Dresker</td>
<td>A Truly Loathly Lady</td>
<td>Logan Greene, Beth Torgerson</td>
</tr>
<tr>
<td>11:20</td>
<td>Christopher Grim</td>
<td>New Criticism Explication of the Double-Entendre Poems in the <em>Exeter Book</em> Riddles</td>
<td>Logan Greene</td>
</tr>
<tr>
<td>11:40</td>
<td>Brady Peneton</td>
<td>Kempe and Kundalini: Literature, Spirituality and Psychology</td>
<td>Logan Greene</td>
</tr>
</tbody>
</table>
**Oral Session 12: History**  
Room 306, 8:40 a.m. – 12:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:40</td>
<td>Jessica Schwartz</td>
<td>Hatshepsut: The Woman Who Became Pharaoh</td>
<td>Laura Phillips</td>
</tr>
<tr>
<td>9:00</td>
<td>Heather Frady</td>
<td>Male-Male, Same-Sex Relationships in Ancient Greek Socio-Military Culture</td>
<td>Dana Elder, Mimi Marinucci</td>
</tr>
<tr>
<td>9:20</td>
<td>Anthony Austin-Walker</td>
<td>A Market for Bodies: Slave Markets in the Ancient Greco-Roman World and the Sale of Human Merchandise</td>
<td>Georgia Bazemore</td>
</tr>
<tr>
<td>9:40</td>
<td>Hussain Alahmad</td>
<td>Sunni and Shiite Muslims in History and Modern Day Persian Gulf</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>10:00</td>
<td>Tanya Bailey</td>
<td>Quixotic Queen, Rebellious Reformer or Home Wrecking Hussy: Anne Boleyn’s Influence on King and Christianity in Tudor England</td>
<td>Bill Youngs</td>
</tr>
<tr>
<td>10:20</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>10:40</td>
<td>Monica Stenzel</td>
<td>Witches’ Black Sabbaths and Other Perversions of the Sacraments in Early Modern Britain</td>
<td>Ann Le Bar</td>
</tr>
<tr>
<td>11:00</td>
<td>Yuma Ujihara</td>
<td>Kendo—The Way of the Sword—Builds Respect, Responsibility and Discipline</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>11:20</td>
<td>Elizabeth McNutt</td>
<td>The Earthquake That Reformed Japan: The 1923 Great Kanto Earthquake</td>
<td>Bill Youngs</td>
</tr>
<tr>
<td>11:40</td>
<td>Ian Reeves</td>
<td>Disaster: Lessons from the Past for Disaster Recovery in the Present</td>
<td>Patricia Chantrill</td>
</tr>
</tbody>
</table>
### Oral Session 13: Psychology III
Room 101, 1:30 p.m. – 3:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Matthew Johansen, Ty Finkas</td>
<td>What Was Your Name Again?: Are Muslims Treated Differently When Seeking Housing?</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>1:50</td>
<td>Jason McAllister, Douglas Emerson</td>
<td>Relationships Between Government Moral Issues, Politics and Gender</td>
<td>Mahlon Dalley</td>
</tr>
<tr>
<td>2:10</td>
<td>Tasia Duske</td>
<td>Drunk and Hot Chick: The Effects of Stereotype-Confirming Priming on Prejudiced Opinions Towards Social Sorority and Fraternity Members</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>2:30</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:40</td>
<td>Cathleen Dunlap, Blaine Bart</td>
<td>Intent to Cohabitate: A Test of the Theory of Planned Behavior</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>3:00</td>
<td>Stefan McNamara, Adriana Sanchez, Alicia Schimanski</td>
<td>Perceptions and Personality Correlates of Attitudes Towards Friends with Benefits Relationships</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>3:20</td>
<td>Koby Binks</td>
<td>Friends with Benefits: The Beginnings, Rules and Ends</td>
<td>Theresa Martin</td>
</tr>
</tbody>
</table>

### Oral Session 14: Music and Journalism (interactive/video)
Room 124, 1:30 p.m. – 3:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Davis Hill</td>
<td>Original Electroacoustic/Software Instrument: Agrippa</td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>to 1:40</td>
<td>K. Michael Fox</td>
<td>Instrument Design and Modeling Within Audio Programming Environments</td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>3:40</td>
<td>Joel Gorman</td>
<td>Slinky-Vibes</td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>to 3:50</td>
<td>Brendan Graham, David Grimes, Ben Adams, Joshua Metcalf, Greg Hayward</td>
<td>Algorithmic Composition</td>
<td>Jonathan Middleton, Steve Simmons</td>
</tr>
<tr>
<td>3:50</td>
<td>Aaron Malmoe</td>
<td>Capturing Light and Action: A Showcase of Sports Journalism Photography</td>
<td>Jamie Neely</td>
</tr>
<tr>
<td>3:50</td>
<td>Al Stover</td>
<td>A New Way of Telling Stories</td>
<td>Jamie Neely</td>
</tr>
</tbody>
</table>
# Oral Session 15: Urban and Regional Planning, Health Services Administration

Room 106, 1:30 p.m. – 4:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Matthew Parsons, William Sinclair</td>
<td>Delimiting Spokane’s Central Business District: An Urban Field Research Study, Part I</td>
<td>Dick Winchell</td>
</tr>
<tr>
<td>2:10</td>
<td>Aaron Qualls, Bryan Esmeralda, Kate Cornwall, Jasmine Maxey</td>
<td>Delimiting Spokane’s Central Business District: An Urban Field Research Study, Part III</td>
<td>Dick Winchell</td>
</tr>
<tr>
<td>2:30</td>
<td>Michelle Swanson</td>
<td>Infrastructure and the Gender Gap in Bicycling: A Comparison Between Seattle, Spokane, Portland and Minneapolis</td>
<td>Bill Kelley, Fred Hurand</td>
</tr>
<tr>
<td>2:50</td>
<td>Kelsey Crane, Nathan Calene</td>
<td>EWU Sustainability Project: Collaborative Roots Permaculture</td>
<td>Laurie Morley, Robin O’Quinn</td>
</tr>
<tr>
<td>3:10</td>
<td><strong>Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:40</td>
<td>Aline Uwonkunda</td>
<td>Vegetation Cover Change Detection in the Nile River Basin by Using MODIS NDVI</td>
<td>Dick Winchell, Gregg Dohrn</td>
</tr>
<tr>
<td>4:00</td>
<td>Nathan Lewis</td>
<td>Analysis of Water Quality and Sanitation in Peru</td>
<td>Mary Ann Keough Hoss</td>
</tr>
<tr>
<td>4:20</td>
<td>Lynne Reeder, Molly Yin, April May</td>
<td>A Study of the CIA Clinic Security Guidelines</td>
<td>Atsushi Inoue</td>
</tr>
</tbody>
</table>
## Oral Session 16: Computer Science
Room 201, 1:30 p.m. – 3:10 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>John Smith, Sam SmithReams, Ian Zieg, Jayme Gibson</td>
<td>My Dog Media</td>
<td>Tom Capaul</td>
</tr>
<tr>
<td>1:50</td>
<td>Conor McMillan, Britt Yazel</td>
<td>An Overview of Open-Source Technology</td>
<td>Lance Walker</td>
</tr>
<tr>
<td>2:10</td>
<td>Brian Zier</td>
<td>SSVEP-Based BCI Demo Using Emotiv EPOC EEG Headset</td>
<td>Paul Schimpf</td>
</tr>
<tr>
<td>2:30</td>
<td>Andrew Canfield, Jordan Thompson, Kylie Martinok</td>
<td>Surviving the Modern Internet</td>
<td>Carol Taylor</td>
</tr>
<tr>
<td>2:50</td>
<td>Sijie Chris Xia</td>
<td>Social Engineering and Cyber Security</td>
<td>LaVona Reeves</td>
</tr>
</tbody>
</table>

## Oral Session 17: Communication Studies
Room 201, 3:20 p.m. – 4:20 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:20</td>
<td>Jordan Apfelbaum</td>
<td>Narrative Criticism of Stephen Colbert’s Super PAC Satire</td>
<td>Patricia Chantrill</td>
</tr>
<tr>
<td>3:40</td>
<td>Daniel Roemer</td>
<td>Rhetoric of the Disaster Genre</td>
<td>Patricia Chantrill</td>
</tr>
<tr>
<td>4:00</td>
<td>Melissa Doty</td>
<td>Vulnerable Among the Vulnerable: Disaster Relief Through the Lens of the Famine</td>
<td>Heather Robinson</td>
</tr>
</tbody>
</table>
# Oral Session 18: Government and International Affairs

Room 203, 1:30 p.m. – 5:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>E.B. Vodde</td>
<td>Sophistry—The Heart of Nietzsche’s Chorus</td>
<td>Thomas Hawley</td>
</tr>
<tr>
<td>1:50</td>
<td>Kylie Hannas</td>
<td>Nietzsche and Wagner: Through the Lens of Strength</td>
<td>Thomas Hawley</td>
</tr>
<tr>
<td>2:10</td>
<td>Alexander Clardy</td>
<td>On Believing in Belief</td>
<td>Thomas Hawley, Kevin Pirch</td>
</tr>
<tr>
<td>2:30</td>
<td>Ryne Rohla</td>
<td>Modeling the Caucus Effect at the County Level: Jesse Jackson and South Carolina in the 1988 Presidential Primaries</td>
<td>Kevin Pirch</td>
</tr>
<tr>
<td>2:50</td>
<td>Austin Schlief</td>
<td>Globalizations and The State</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>3:10</td>
<td></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>3:20</td>
<td>Joseph Coffee</td>
<td>Banning Barbie: A Political Paradox</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>3:40</td>
<td>Ashley Podplesky</td>
<td>Refugees, Migration, and Security: An Overview of the Migration of Afghan Refugees and Its Reception in the United States and Pakistan</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>4:00</td>
<td>Michael Hanson</td>
<td>Counterinsurgency Considerations</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>4:20</td>
<td>Michael Watts</td>
<td>The Great Hanshin Earthquake of 1995: Kobe, Japan: A Look at How Japanese Culture Influenced Governmental Response and Relief</td>
<td>Patricia Chantrill</td>
</tr>
<tr>
<td>4:40</td>
<td>Reika Horio</td>
<td>Tohoku Tsunami Victims One Year After: Feeling Forgotten, But Appreciative</td>
<td>LaVona Reeves</td>
</tr>
</tbody>
</table>
### Oral Session 19: Physical Education, Health and Recreation
Room 204, 1:30 p.m. – 2:30 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Jessica Stimmel</td>
<td>The Effects of Acute Fatigue on Bilateral Symmetry of Muscle Activation Onset During a Landing Task</td>
<td>Jeni McNeal</td>
</tr>
<tr>
<td>1:50</td>
<td>Caitlyn Jordan</td>
<td>A 10-Week Mental Fitness Skills Training Program to Enhance Psychological Resilience and Academic Achievement Among First Generation College Students</td>
<td>Jon Hammermeister, Lawrence Briggs</td>
</tr>
<tr>
<td>2:10</td>
<td>Heather Sevier, Elizabeth Reinstein Yoshi Tsumekawa, Jennifer Dawson, Katelyn Hill, Hiro Mikami</td>
<td>Athletic Training Around the World</td>
<td>Garth Babcock</td>
</tr>
</tbody>
</table>

### Oral Session 20: Chemistry and Biochemistry II
Room 204, 2:40 p.m. – 5:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:40</td>
<td>Candice Ireland, Nicole Ecklund, Joey Bell</td>
<td>SNP Analysis of Baseline Allele Frequency of Cytochrome b and ATP 6 Within Ancient Bison bison</td>
<td>Randy James, Steve Fisk</td>
</tr>
<tr>
<td>3:00</td>
<td>Marina Defrates, Nicole Hamlin, Kelly Ann Cameron, Austen Frostad</td>
<td>SNP Analysis of Intra-herd and Inter-herd Genetic Diversity of Ancient Bison bison</td>
<td>Randy James, Steve Fisk</td>
</tr>
<tr>
<td>3:20</td>
<td>Amanda Stewart</td>
<td>Extraction Efficiency Analysis of a Common DNA Extraction Protocol When Applied to Apis melifera Mid-gut Tissue and Bacterial Consortia</td>
<td>Randy James, Steve Fisk</td>
</tr>
<tr>
<td>3:40</td>
<td>Hailey Markam-Patti, Keara Rypien</td>
<td>Quantification and Analysis of Apis melifera Mid-gut Bacterial DNA and the Effects of Agricultural Practices on the Population Density</td>
<td>Randy James, Steve Fisk</td>
</tr>
<tr>
<td>4:00</td>
<td>Tyler Dennis, Nicole Hamlin, Corey Horn</td>
<td>An Analysis of Human Alu Insertion Frequencies Using Alu Specific PCR and Hardy-Weinberg Analysis</td>
<td>Randy James, Steve Fisk</td>
</tr>
<tr>
<td>4:20</td>
<td>Taylor Duncan</td>
<td>An Analysis of Adaptive SNP Frequency Within ATP 6 Mule Deer Populations in Washington State</td>
<td>Randy James, Steve Fisk</td>
</tr>
<tr>
<td>4:40</td>
<td>Kyle Thomas, Chelsea Bennett, Kienan Loe</td>
<td>SNP Analysis of Cytochrome b for the Analysis of Genetic Diversity Within Odocoileus hemionus Herds Within Washington State</td>
<td>Randy James, Steve Fisk</td>
</tr>
</tbody>
</table>
## Oral Session 21: English III
Room 221, 1:30 p.m. – 5:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Amanda Maule</td>
<td>Aristotle’s Humor Is Not Superior, but Incongruous: Putting Both Gloves on for Double the Punch Line</td>
<td>Dana Elder</td>
</tr>
<tr>
<td>1:50</td>
<td>Andrew Seymore</td>
<td>Irene versus Aspasia: Competing World Views in Samuel Johnson’s Irene</td>
<td>Matthew Binney</td>
</tr>
<tr>
<td>2:10</td>
<td>Christopher Stuck</td>
<td>The Inevitability of Satan: Choice, Reason, and Free Will in John Milton’s Paradise Lost</td>
<td>Matthew Binney</td>
</tr>
<tr>
<td>2:30</td>
<td>Jaimie Kenney</td>
<td>Anna Rosmus and the Memorial Culture of Passau</td>
<td>Jody Stewart-Strobel</td>
</tr>
<tr>
<td>2:50</td>
<td>Melissa Van De Wege</td>
<td>Arabic and English Rhetoric: An Analysis and Comparison of Taxis, Voice and Poetic Expression</td>
<td>Tracey McHenry</td>
</tr>
<tr>
<td>3:10</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:20</td>
<td>Yifan Hou</td>
<td>Tang Dynasty Poetry in the Golden Age</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>3:40</td>
<td>Jordan Lemmon</td>
<td>The Growing Dead: How Zombies Went Viral</td>
<td>Polly Buckingham</td>
</tr>
<tr>
<td>4:00</td>
<td>Daniel Williamson</td>
<td>Raison d’Être: What English Instruction Should Universities Provide to an Ever-Diversifying Student Body?</td>
<td>Justin Young</td>
</tr>
<tr>
<td>4:20</td>
<td>April Ridgeway</td>
<td>Code-Meshing Pedagogy: A Rhetorical Focus</td>
<td>Molly Johnson, Justin Young</td>
</tr>
<tr>
<td>4:40</td>
<td>Amy Meyer, Grant Stancliff</td>
<td>Transitioning Journalism to an Online Medium: How the Easterner Is Developing Students into New Media Specialists</td>
<td>Jamie Neely</td>
</tr>
</tbody>
</table>
### Oral Session 22: Physical Therapy and Occupational Therapy
Room 243, 1:30 p.m. – 4:20 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Kevin Wright, Jonathan Braun</td>
<td>Effectiveness of Kneepads with Built-in Seat on Contact Pressure and</td>
<td>Dan Anton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Muscle Activity</td>
<td></td>
</tr>
<tr>
<td>1:50</td>
<td>Sam Herman</td>
<td>Instruction in Proper Lifting Technique: Squat v. Stoop Lifting</td>
<td>Dan Anton</td>
</tr>
<tr>
<td>2:10</td>
<td>Allison Greenberg</td>
<td>Perceptions of Exercise, Health, and Quality of Life in Patients with</td>
<td>Tanya LaPier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor Functional Outcomes During the First Year After Coronary Artery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bypass Surgery</td>
<td></td>
</tr>
<tr>
<td>2:30</td>
<td>Danielle Slaughter</td>
<td>Risk Factors Associated with Sternal Complications in Patients</td>
<td>Tanya LaPier,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Following Open Heart Surgery and Implications for Activity Precautions</td>
<td>Megan Chatellier</td>
</tr>
<tr>
<td>2:50</td>
<td>Elena Skornyakov</td>
<td>Difference in Balance Performance Between Older Adults with and without</td>
<td>Kimberly Cleary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a History of Falls</td>
<td></td>
</tr>
<tr>
<td>3:10</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:20</td>
<td>Andrew Hay, Doug Gulbranson</td>
<td>Correlating Neurologic Function to School Performance in Students</td>
<td>Donna Mann</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at RiverCity Leadership Academy</td>
<td></td>
</tr>
<tr>
<td>3:40</td>
<td>Robin Rowland, Kelsey Vanderhoof, Taci VanLeuven, Kelsie</td>
<td>Animal-Assisted Therapy with Children in Grief: Implications for</td>
<td>Elizabeth Kohler,</td>
</tr>
<tr>
<td></td>
<td>Kilpatrick, Jennifer Williams, Alyse Kolstad</td>
<td>Occupational Therapy</td>
<td>Diane Norell</td>
</tr>
<tr>
<td>4:00</td>
<td>Allie Jost, Darwin Bell, Ian Boyle, Janelle Wilkinson,</td>
<td>The Role of an Occupational Therapy Level II Fieldwork Student</td>
<td>Diane Norell</td>
</tr>
<tr>
<td></td>
<td>Diane Levad</td>
<td>Within Spokane Mental Health Services’ Program for Assertive Community</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatment (PACT)</td>
<td></td>
</tr>
</tbody>
</table>
Oral Session 23: Sociology, Economics and Women’s Studies  
Room 306, 1:30 p.m. – 4:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30</td>
<td>Lakeisha Jones</td>
<td>Juvenile Recidivism</td>
<td>Kerryn Bell</td>
</tr>
<tr>
<td>1:50</td>
<td>Paul Weber, Quinton Brooks</td>
<td>The EWU K-9 Building Search Study</td>
<td>Kerryn Bell</td>
</tr>
<tr>
<td>2:10</td>
<td>Benjamin Gallion</td>
<td>Lebanese and Anglo-Australian Race Relations in Sydney: A Discourse</td>
<td>Pui-Yan Lam</td>
</tr>
<tr>
<td>2:30</td>
<td>Benita Walker</td>
<td>Gendercide in India</td>
<td>Kelley Cullen</td>
</tr>
<tr>
<td>2:50</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>3:00</td>
<td>Kyra Gaines</td>
<td>Run Sista’ Run: Black Women in Track &amp; Field 1948-1999</td>
<td>Robert Bartlett, Christina Torres Garcia</td>
</tr>
<tr>
<td>3:20</td>
<td>Angelica Hill</td>
<td>Interpreting the Message: Portrayals of Victims in Ciudad Juarez Femicide</td>
<td>Martin Meraz-Garcia</td>
</tr>
<tr>
<td>3:40</td>
<td>BinBin Ya</td>
<td>Women’s Status in China—The Past and Present</td>
<td>LaVona Reeves, Yang Li</td>
</tr>
<tr>
<td>4:00</td>
<td>Sara Alabdi</td>
<td>The Education of Saudi Women: A Cross-Generational Analysis</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>4:20</td>
<td>Kali Green</td>
<td>Subjugated Knowledge and the Journey of the Outsider Within: An Indian Women’s Resistance</td>
<td>Mimi Marinucci</td>
</tr>
</tbody>
</table>
Poster Sessions
2nd Floor Lounge and Rooms 302/304
Sessions 1 & 2: 8:00 a.m. - 9:45 a.m.
Sessions 3 & 4: 10:15 a.m. - 12:00 p.m.
Sessions 5 & 6: 1:30 p.m. - 3:00 p.m.

Presenters will be available to discuss their posters during each session

Session 1: 2nd Floor Lounge, 8:00 a.m. - 9:45 a.m.

<table>
<thead>
<tr>
<th>Poster #</th>
<th>Presenter</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Geology</td>
<td>Marshall Peone</td>
<td>The Columbia River</td>
<td>Richard Orndorff</td>
</tr>
<tr>
<td>2. Geology</td>
<td>Simon Doi</td>
<td>The World’s Most Productive Desert</td>
<td>Richard Orndorff</td>
</tr>
<tr>
<td>3. Geology</td>
<td>John Thurston</td>
<td>Cheney Fracture Zone Correlated to Regional Structures</td>
<td>Chad Pritchard</td>
</tr>
<tr>
<td>4. Geology</td>
<td>Cody Crim</td>
<td>Large Landslide Discovered Using Stratigraphy of the Columbia River</td>
<td>Linda McCollum, Chad Pritchard</td>
</tr>
<tr>
<td>5. Geology</td>
<td>Hannah Campbell</td>
<td>U-Pb Ages of Plutons near Long Lake Dam and Little Falls Dam, Lake</td>
<td>Chad Pritchard</td>
</tr>
<tr>
<td>6. Geology</td>
<td>Daniel Albrecht</td>
<td>Elemental Analysis of EWU Drinking Water</td>
<td>Carmen Nezat</td>
</tr>
<tr>
<td>7. Geology</td>
<td>Ian Leavy</td>
<td>Arsenic Content of the Latah Formation and Its Effect on Local Groundwater</td>
<td>Carmen Nezat</td>
</tr>
<tr>
<td>8. Geology</td>
<td>Michael Landkammer,</td>
<td>Toxic Elements in Children’s Toys</td>
<td>Carmen Nezat</td>
</tr>
<tr>
<td>9. Geology</td>
<td>Hannah Campbell,</td>
<td>Metal Occurrence and Basic Nutrition in Dog Food</td>
<td>Carmen Nezat</td>
</tr>
<tr>
<td>10. Geology</td>
<td>Jamie Gardipe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Geology</td>
<td>Kassandra Lindsey</td>
<td>Climate Controls in Dendrochronology of Ponderosa Pines</td>
<td>Richard Orndorff</td>
</tr>
<tr>
<td>12. CED</td>
<td>Nick Dean</td>
<td>Giving Back! An Evaluation of Students’ Willingness to Support an Increase in Their Transportation Fee</td>
<td>Ryan Sain</td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. CED</td>
<td>Lan Tran</td>
<td>Cumulative Record of Student Exam Attempts in a Mastery Based University Course</td>
<td>Ryan Sain</td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>Jessica Kauffman,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Victoria Borgman</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. CED Psychology</td>
<td>Liliya Rudneva</td>
<td>Impact of a Girl’s Relationship with Her Father During Her Childhood on Her Choice of Intimate Partners in Her Adult Life</td>
<td>Dorothy Munson</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>16. Children’s Studies</td>
<td>Lateasha Lewis, Trevor Liebing</td>
<td>Spokane Youth Services: How Engagement Fosters Success</td>
<td>Sue Wright</td>
</tr>
</tbody>
</table>

**Session 2:** Rooms 302/304, 8:00 a.m. - 9:45 a.m.

<table>
<thead>
<tr>
<th>Poster #</th>
<th>Presenter</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Technical Communication</td>
<td>Codie Deyo</td>
<td>Information Design Affects the Functionality of a Document</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>20. Technical Communication</td>
<td>Kakhonkwison Logan</td>
<td>Clarity Requires Visual Cues</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>21. Technical Communication</td>
<td>Amanda Erickson</td>
<td>Typefaces Have Personalities Too</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>22. Technical Communication</td>
<td>Kimberly Lawrence</td>
<td>Writers’ Center Service Learning Project</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>23. Technical Communication</td>
<td>Catherine Mair</td>
<td>Service Learning with EWU’s Writers’ Center and What I Learned</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>24. Technical Communication</td>
<td>Dylan Coil</td>
<td>RefWorks Service Learning</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>25. Technical Communication</td>
<td>Laurie Bowman</td>
<td>Document Design with Get Lit! at EWU</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>27. Technical Communication</td>
<td>Julia Zurcher</td>
<td>Instructions and Procedures for the EWU Transfer Guide</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>28. Technical Communication</td>
<td>Carl Schmidt</td>
<td>Camcorder Manuals</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>29. Technical Communication</td>
<td>Ryan Magryta</td>
<td>Spokane Clean Air Internship</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>30. Technical Communication</td>
<td>Amber O’Connor</td>
<td>What’s in a Name? Peaceful Valley Community Center</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>31. Technical Communication</td>
<td>Andrew D’Ewart</td>
<td>Service Learning—Experience That Makes a Difference</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>--------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>32. Technical Communication</td>
<td>Kayla Newton</td>
<td>Inspiring the Future: A Proposal to Build and Supply</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>33. Technical Communication</td>
<td>Nick Spanjer</td>
<td>Building Hope: A Proposal for Vocational Education</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>34. Technical Communication</td>
<td>Jessica Shipp</td>
<td>American Red Cross Grant</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>35. Technical Communication</td>
<td>Jill Herrera</td>
<td>Service in Action: Great Shape! Inc., the Bob Marley Foundation, and English 407</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>36. Technical Communication</td>
<td>Mary Klements</td>
<td>Inland Northwest Land Trust Grant of 2011</td>
<td>Molly Johnson</td>
</tr>
</tbody>
</table>

**Session 3:** 2nd Floor Lounge, 10:15 a.m. - 12:00 p.m.

<table>
<thead>
<tr>
<th>Poster #</th>
<th>Presenter</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.</td>
<td>Robert Cimball</td>
<td>Icon of Two Sides: The Duality of Muhammad Ali</td>
<td>Chadron Hazelbaker</td>
</tr>
<tr>
<td>38.</td>
<td>Annika Vyakhk, Charles Monson, Ken Dragoo</td>
<td>Comparison of Tester Experience When Measuring Percent Body Fat Using Skinfolds in College-Aged Adults</td>
<td>Wendy Repovich</td>
</tr>
<tr>
<td>39.</td>
<td>Tyler Mattair, Ryan Maynes, Ken Dragoo</td>
<td>Validity of A-Mode Ultrasound in College-Aged Adults</td>
<td>Wendy Repovich</td>
</tr>
<tr>
<td>40.</td>
<td>Ken Dragoo</td>
<td>Effects of Caffeine on VO2 and VCO2 Kinetics During Supramaximal Cycling in College-Aged Adults</td>
<td>Wendy Repovich</td>
</tr>
<tr>
<td>41.</td>
<td>Breann Booher, Kent Wilcox, Shawna Crosley, Jake Howell</td>
<td>A 20-Year-Old Male Collegiate Football Player with a Fibular Fracture and a Grade III Syndesmotic Sprain</td>
<td>Garth Babcock</td>
</tr>
<tr>
<td>42.</td>
<td>Robert Leach, Patrick Meisenheimer, Andrew Downing, Katelyn Hill, Josh Aarnes</td>
<td>21-Year-Old Male Basketball Player with a Jones Fracture</td>
<td>Garth Babcock</td>
</tr>
<tr>
<td>43.</td>
<td>Melani Kelly, Sayaka Yasui, Virginia Roth</td>
<td>An 18-Year-Old Male Collegiate Track and Field Decathlete with a Double Achilles Tendon Rupture</td>
<td>Garth Babcock</td>
</tr>
<tr>
<td>44. Physical Education Health and Recreation</td>
<td>Jodee Hickman, Whitney Champlin, Tara McLaughlin</td>
<td>Collegiate Football Player Following Bicipital Tenodesis</td>
<td>Jeffrey Kawaguchi</td>
</tr>
<tr>
<td>45. Physical Education Health and Recreation</td>
<td>Megan Jeffris, Whitney Kath, Jared Blane, Leslie Martin, Heather Sevier</td>
<td>20-Year-Old Female Soccer Player with Torn ACL</td>
<td>Garth Babcock</td>
</tr>
<tr>
<td>46. Physical Education Health and Recreation</td>
<td>Jamie Nikander, Kaiti Bolles, Jenny Ach, Asiya Akhgar</td>
<td>The Treatment of a 21-Year-Old Female Volleyball Athlete with L5-S1 Stenosis Using Primal Reflex Release Technique</td>
<td>Jeffrey Kawaguchi</td>
</tr>
<tr>
<td>47. Physical Education Health and Recreation</td>
<td>Quinn Jose Marianno, Liz Reinstein, Liz Gelhaus, Amanda Humphrey</td>
<td>Case Study: Psychological Obstacles in an Individual After Periacetabular Osteotomy</td>
<td>Jeffrey Kawaguchi, Garth Babcock</td>
</tr>
<tr>
<td>48. Physical Education Health and Recreation</td>
<td>Nicole Maiden, Medea Bernsten, Amanda Laurita, Joe Kreilkamp, Jennifer Dawson, Yoshihiko Tsumekawa</td>
<td>16-Year-Old Male Football Athlete with Multiple Knee Injuries</td>
<td>Garth Babcock, Jeffrey Kawaguchi</td>
</tr>
<tr>
<td>50. Physical Therapy</td>
<td>Derek Lusk</td>
<td>Rehabilitation for a Decompression Laminectomy Secondary to Degenerative Lumbar Spinal Stenosis: A Case Report</td>
<td>Darl Vander Linden</td>
</tr>
<tr>
<td>52. Physical Therapy</td>
<td>Elena Skornyakov</td>
<td>Reliability and Internal Consistency of the Activities-specific Balance Confidence Scale in Older Adults</td>
<td>Kimberly Cleary</td>
</tr>
<tr>
<td>53. Physical Therapy</td>
<td>Kyle Prescott</td>
<td>Balance Performance Differences Between Older Men and Women Using Four Outcome Measures</td>
<td>Kimberly Cleary</td>
</tr>
</tbody>
</table>
### Session 4: Rooms 302/304, 10:15 a.m. - 12:00 p.m.

<table>
<thead>
<tr>
<th>Poster #</th>
<th>Presenter</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>55.</td>
<td>Hope Tran</td>
<td>Structural and Magnetic Diversity Among Ni(II)-Based Polymers Comprised of Pyrazine Bridges</td>
<td>Jamie Manson</td>
</tr>
<tr>
<td>56.</td>
<td>Adora Baldwin</td>
<td>Synthesis, Structural and Magnetic Study of a Family of Novel Complexes: [Cu(pyz)$_2$M$_6$]cdot4H$_2$O Where (pyz =Pyrazine) and (M= V$^{4+}$, Cr$^{3+}$, Mn$^{3+}$, Fe$^{3+}$)</td>
<td>Jamie Manson</td>
</tr>
<tr>
<td>57.</td>
<td>Ryan Horton</td>
<td>Effects of Human ITPase G150F Mutant on Substrate Binding Cooperatively</td>
<td>Nicholas Burges</td>
</tr>
<tr>
<td>58.</td>
<td>Anh Le</td>
<td>Synthesis and Purification of Aldol Condensation Products Between the Nicotine Related Alkaloid Myosmine and Heterocyclic Aldehydes: Trials and Tribulations</td>
<td>Travis Denton</td>
</tr>
<tr>
<td>59.</td>
<td>Stacie Ginkins</td>
<td>Small Molecule Library Targeting Two Systems for the Treatment of Nicotine Addiction: The α7 Nicotinic Acetylcholine Receptor and Cytochrome P-450 2a6</td>
<td>Travis Denton</td>
</tr>
<tr>
<td>60.</td>
<td>Ryan Stahler</td>
<td>The Determination of Riboflavin in Vitamin Tablets by Fluorescence Spectroscopy</td>
<td>Wes Steiner</td>
</tr>
<tr>
<td>61.</td>
<td>Josh Swider</td>
<td>A Human Blood Serum Protein Biomarker Assay for Rheumatoid Arthritis</td>
<td>Wes Steiner</td>
</tr>
<tr>
<td>62.</td>
<td>Pamela Yee</td>
<td>Selecting the Best Reagent for the Detection and Enhancement of Bloody Fingerprints</td>
<td>Peter Bilous</td>
</tr>
<tr>
<td>63.</td>
<td>Regina Wike</td>
<td>The Impact of Dye Extraction on the Spectral Analysis of Forensic Fiber Evidence</td>
<td>Peter Bilous</td>
</tr>
<tr>
<td>64.</td>
<td>Tonya Gaddy</td>
<td>Asymmetric Four Point Bending Analysis for the Reduction of Fin Flutter</td>
<td>Axlad Hossain, Martin Weiser</td>
</tr>
<tr>
<td>65.</td>
<td>Kyle Archueleta,</td>
<td>Digital Steganography</td>
<td>Min-Sung Koh</td>
</tr>
<tr>
<td></td>
<td>Scott Watling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.</td>
<td>Lynn Clark</td>
<td>Teaching with Technology</td>
<td>Kevin Pyatt</td>
</tr>
<tr>
<td>67.</td>
<td>Nathan Dutton</td>
<td>Classroom Technology Integration Strategies</td>
<td>Kevin Pyatt</td>
</tr>
<tr>
<td>68.</td>
<td>Jason Sanger</td>
<td>International Standard for Technology for Teaching E-Portfolio</td>
<td>Kevin Pyatt</td>
</tr>
<tr>
<td>69.</td>
<td>Alyaa Malibari</td>
<td>Integrating E-Learning in the Education Instruction</td>
<td>Kevin Pyatt</td>
</tr>
<tr>
<td>70.</td>
<td>Nolan Gruver</td>
<td>Teaching with Technology Portfolio: Web 2.0 Tools</td>
<td>Kevin Pyatt</td>
</tr>
</tbody>
</table>
## Session 5: 2nd Floor Lounge, 1:30 p.m. - 3:00 p.m.

<table>
<thead>
<tr>
<th>Poster #</th>
<th>Presenter</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>71. Psychology</td>
<td>Kimberly Veitenheimer, Jeremy Goldman, Trevor Geren, Faith Golden</td>
<td>Relationship of Academic Measures Allied to Social/Emotional Health</td>
<td>Susan Ruby</td>
</tr>
<tr>
<td>72. Psychology</td>
<td>Derek Ellis</td>
<td>Emotional Regulation and Time Perception</td>
<td>Jonathan Anderson</td>
</tr>
<tr>
<td>73. Psychology</td>
<td>Tsung-mao Wu</td>
<td>The Possibility of Correlation Between Facebook and College Students’ GPA Performance</td>
<td>Lori Miller</td>
</tr>
<tr>
<td>74. Psychology</td>
<td>Stanislav Pichinevskiy, Cody Jensen, Sheila Suominen, David Ortiz, Jens Uhder</td>
<td>The Spiritual Profile of a Grateful Person</td>
<td>Philip Watkins</td>
</tr>
<tr>
<td>75. Psychology</td>
<td>Oliver Davidson, Cody Jensen, Andrew Pereira</td>
<td>Characteristics of Grateful People</td>
<td>Philip Watkins</td>
</tr>
<tr>
<td>76. Psychology</td>
<td>Trevor Fry</td>
<td>Caffeine and Time Perception</td>
<td>Jonathan Anderson</td>
</tr>
<tr>
<td>77. Psychology</td>
<td>Ethan Silvieux</td>
<td>To Brand or Not to Brand</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>78. Psychology</td>
<td>Ghynecee Temple</td>
<td>Trauma History as a Predictor of HIV Risk Behaviors in a Sample of Incarcerated Women</td>
<td>Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>79. Psychology</td>
<td>April Wilson, Sarah Noureddine</td>
<td>Development of a Normative Database for the Test of Memory Malingering in Pediatric Populations</td>
<td>Lori Miller</td>
</tr>
<tr>
<td>80. Psychology</td>
<td>Jhinelle Boggie</td>
<td>The Best and Worst Qualities Found in a Coworker According to Men and Women</td>
<td>Lori Miller</td>
</tr>
<tr>
<td>81. Psychology</td>
<td>Amanda DeBleeker, Celeste Wilson</td>
<td>Attitudes and Perceptions of Baby Mommas and Baby Daddys</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>82. Psychology</td>
<td>Tyson Rice, Katie Higgins</td>
<td>Discriminated Rebel? The Effects of Discrimination on Reactance</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>83. Psychology</td>
<td>Sthefanie Hernandez</td>
<td>Gender Differences and Sensation Seeking Personality Traits Relationship with Spatial Ability and Spatial Anxiety</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>84. Anthropology</td>
<td>Antonette Barker</td>
<td>Technology as Chaos, Nature as Order: Wizards and Apocalyptic Thinking</td>
<td>Julia Smith</td>
</tr>
<tr>
<td>85. Anthropology</td>
<td>Rahel Wondimu, Manvir Kaur</td>
<td>No More Cutting the Girls!</td>
<td>Scott Finnie, Jerry Galm</td>
</tr>
<tr>
<td>86. History</td>
<td>Tracy Rebstock</td>
<td>History of Spokane Parks: Part of the Spokane Historical Project</td>
<td>Larry Cebula</td>
</tr>
</tbody>
</table>
**Session 6: Rooms 302/304, 1:30 p.m. - 3:00 p.m.**

<table>
<thead>
<tr>
<th>Poster #</th>
<th>Presenter</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>88. Biology</td>
<td>Dustan Bilte</td>
<td>Promoting Production in Producers with Sucrose and Water Uptake Through Almond Tree Stems and Roots via Injection and Infusion</td>
<td>Suzanne Schwab</td>
</tr>
<tr>
<td>89. Biology</td>
<td>Cristine Schucker</td>
<td>Microbial Stream Ecology of Latah Creek Watershed, WA</td>
<td>Camille McNeely</td>
</tr>
<tr>
<td>90. Biology</td>
<td>Cody Schoonover, Jessica Wieker</td>
<td>Toxicity of Zinc to Freshwater Clams</td>
<td>Joanna Joyner-Matos</td>
</tr>
<tr>
<td>91. Biology</td>
<td>Justin Burrows, Nathan Doneen, Mary Lewin, Jake Ponce</td>
<td>Effects of 17 β-estradiol on the Muscle Physiology, O2 Consumption, and Aggression of the Signal Crayfish (<em>Pacifastacus leniusculus</em>)</td>
<td>Joanna Joyner-Matos, Tom Hancock</td>
</tr>
<tr>
<td>92. Biology</td>
<td>Andrew Hodgson</td>
<td>Color Preferences of the Brook Stickleback</td>
<td>Ross Black</td>
</tr>
<tr>
<td>93. Biology</td>
<td>Kristina Pikalova, Alix Blake</td>
<td>Lake Roosevelt, Lake Whatcom and Wild Stock Fecundity-Length-Weight Comparison in <em>Oncorhynchus nerka</em></td>
<td>Allan Scholz</td>
</tr>
<tr>
<td>94. Biology</td>
<td>Veniel Garza, Jacob Andrew, Charles Baer</td>
<td>Nematodes with Low Fitness Are Less Responsive to Environmental Stress</td>
<td>Joanna Joyner-Matos</td>
</tr>
<tr>
<td>95. Biology</td>
<td>Cheryl Dykstra-Aiello</td>
<td>Age Affects Aerobic Exercise-Induced Reductions in Pain Sensitivity in Female Sprague-Dawley Rates</td>
<td>Karen Carlberg</td>
</tr>
<tr>
<td>96. Biology</td>
<td>Arley Medrano</td>
<td>A Pathogen Is Attenuated to Its Native Host Following a Host-Shift</td>
<td>Luis Matos</td>
</tr>
<tr>
<td>97. Biology</td>
<td>Vera Pikalova</td>
<td>Sigma Virus Genetics Unaffected by Argon Gas Exposure</td>
<td>Luis Matos</td>
</tr>
<tr>
<td>98. Biology</td>
<td>Amy Gray, Marcus Hooper, Deborah Harris</td>
<td>Evolution of Virulence Following a Host Shift in the <em>Drosophila</em> Model</td>
<td>Luis Matos</td>
</tr>
<tr>
<td>99. Biology</td>
<td>Deborah Harris</td>
<td>Correlating Pathogen Genetics with Virulence and Transmission</td>
<td>Luis Matos</td>
</tr>
<tr>
<td>100. Biology</td>
<td>Abigail Winschell</td>
<td>Fur Regulates the <em>Helicobacter pylori</em> NapA Gene</td>
<td>Andrea Castillo</td>
</tr>
<tr>
<td>101. Biology</td>
<td>Amelia Bothwell</td>
<td>Identification of Novel Translocated <em>Heliobacter pylori</em> Virulence Factors Using <em>Saccharomyces cerevisiae</em> as a Model Eukaryotic Cell</td>
<td>Andrea Castillo</td>
</tr>
<tr>
<td>102. Economics</td>
<td>John Mojica, Connor Cockle, Brandon Evans</td>
<td>Is There a Premium Earned by Professional NFL Players Due to Participation in Certain NCAA Conferences?</td>
<td>Kelley Cullen</td>
</tr>
<tr>
<td>103. Economics</td>
<td>Christopher Smith</td>
<td>Free Labor versus Slavery: The Profit Game</td>
<td>Kelley Cullen</td>
</tr>
<tr>
<td>104. Urban and Regional Planning</td>
<td>Sherwin Racehorse</td>
<td>A Disparity of Funding: Indian Reservation Roads Maintenance</td>
<td>Dick Winchell</td>
</tr>
</tbody>
</table>
Abstracts & Creative Works Descriptions

In Alphabetical Order by (1st) Presenter's Last Name

Includes names of contributing authors

The History of the Kimono in Japan
Hiroko Abe
LaVona Reeves, English

Kimono and yukata are traditional Japanese clothing. Kimono are often made of silk and are usually very expensive. Nowadays they are worn at formal or traditional occasions such as funerals, weddings or tea ceremonies. Only rarely kimono can still be seen in everyday life, but they are still unique to the culture and are not likely to die out anytime soon. The school, Hakubi Kyoto Kimono Gakuin, provides various kinds of kimono for children, men, and women. A slide show of the historical periods and styles of the different eras is included here alongside a discussion of the symbolic and cultural meanings of the kimono. The Jomon through the Eido Periods found Japanese clothed in Kimono of different textiles and styles based on the status of the wearer and season of the year. The kimono also figures prominently in literature, and the movement of the sleeve has symbolic meaning, which is discussed here.

The Impact of Age on Time Estimation
Esmeralda Adolf
Jonathan Anderson, Psychology

Driving requires accurate estimation of time. For example, merging into traffic or stopping at a stop sign both require timing correctly. Past research has shown that older adults (>55 years old) are less accurate estimating time than younger adults. However, few studies have investigated timing accuracy of individuals in their middle ages. The present study investigated time estimation abilities in individuals in their middle ages (aged 35 to 55) compared to younger adults (aged 20 to 30). The aim of this study was to narrow the age gap as it relates to the perception and accurate estimation of time. Participants provided estimates for 10 s, 25 s, 45 s, and 60 s time intervals. The results suggested that the middle-aged adults provided a greater magnitude of error at 25 s and 45 s intervals, and underestimated the 60 s time interval to a greater degree than younger adults. This suggests that age differences can be noticed earlier than past research has suggested.
Synthesis and Antimicrobial Efficacy of N-Alkylbis(3-acetamidopropyl)-N-alkylammonium Halides
Donovon Adpressa
Travis Denton, Chemistry and Biochemistry

Today, many bacteria have become resistant to standard antibiotic treatments. Quaternary biocides (quats) are currently being explored for their therapeutic value as antibiotics. Quats capitalize on electrostatic attractive forces between the biocide and the bacteria. Once in place, the biocide disrupts the cell’s membrane by inserting a lipophilic tail, disrupting pH and concentration gradients of the cell resulting in death. This class of antimicrobial agents is of high importance due to its ability to destroy drug resistant bacteria. This project’s goal is to optimize the synthesis of a new class of cationic, amphiphilic biocides. A series of N-alkylbis(3-acetamidopropyl)amines were synthesized via catalytic hydrogenation of N-alkylbis(2-cyanoethyl)amines utilizing acetic anhydride in a duel role, as both the solvent and an acylation agent. Each of the resulting compounds was then quaternized via an SN2 reaction with select alkyl halides to afford N-alkylbis(3-acetamidopropyl)-N-alkylammonium halides. The result of these experiments and antimicrobial testing will be discussed.

The Education of Saudi Women: A Cross-Generational Analysis
Sara Alabdi
LaVona Reeves, English

Aguirre, Cavanaugh, and Sabbagh (2011) studied and reported the traits of successful women in the Middle East and found three common traits: “constant improvement, quiet confidence, and studied discomfort.” Currently, 60% of college students in Saudi Arabia are female, and many are first-generation college students. This generation of women is different from their mothers’ and grandmothers’ generations, especially in terms of education levels. Hamdan (2005), discusses how changes over time suggest that there appears to be backsliding. She points out restraints on progress in certain fields and suggests causes. Increased oil income for the nation meant more women began to study abroad, and this has contributed to social change as well. Despite changes in educational levels, the three generations share cultural values that remain rooted in tribal history.

Sunni and Shiite Muslims in History and Modern Day Persian Gulf
Hussain Alahmad
LaVona Reeves, English

This presentation addresses Sunni and Shiite history, focusing on Saudi Arabia, Iran, Iraq, and Bahrain. The author traces the dispute about the Prophet Mohammed’s successors that led to the separation in the religion. “When problems arose over the rightful successors to Muhammad, the Sunni said the first four caliphs were Muhammad’s rightful successors, whereas the opposing minority, the Shiites, believed that Muslim leadership belonged to Muhammad’s son-in-law, Ali, and then to his descendants” (Shouler). While both groups have much in common, there are still problems, which will be discussed in this session.
**Elemental Analysis of EWU Drinking Water**

*Daniel Albrecht, Carmen Nezat, Enviromental Science*

Lead was found in Eastern Washington University’s (EWU) drinking water above the Environmental Protection Agency’s (EPA) allowed limit in 2010. The most likely source of lead in the water is the corrosion of pipes or faucets that contain lead. In 2009, due to the discovery of *E. coli* in the water EWU began chlorinating its water. Chlorine is very corrosive and may have been responsible for leaching lead from the pipes and faucets. To determine the quality of water on campus, forty water samples were collected from drinking water fountains in twenty buildings across campus in November 2011 and analyzed for several elements (e.g., arsenic, calcium, copper, iron, potassium, magnesium, sodium, phosphorus, silicon, and zinc) on an Inductively Coupled Plasma-Optical Emissions Spectrometer (ICP-OES). The concentrations of these elements were compared to the EPA drinking water standards. The results show that the amount of each element is significantly lower than the EPA standards. The resulting conclusion is that EWU drinking water is within regulations and is very safe to drink!

**Tribal Influence on Family Life in Saudi Arabia**

*Ali Alghumlas, LaVona Reeves, English*

Living in the desert long ago, the tribes of the Middle East were fighting with each other to expand their land and increase their power. In modern life in Saudi Arabia, many would assume that tribal influence is dying out or no longer exists. Scholars of Middle Eastern Studies, like Salzman, argue that the “tribal spirit holds sway. Its influence upon Islam permeates even the most cosmopolitan Arab states even if the tribal influences enshrined in the religion espoused or revealed by Muhammad are, almost fourteen centuries later, forgotten.” This presentation focuses on how tribal thinking remains part of the family system of parents, children, and extended family in Saudi Arabia. There are still tribal rules that affect family behaviors and expectations, and these will be discussed.

**Historical Mosques in Saudi Arabia**

*Ahmed Alneel, Fahad Alotaibi, LaVona Reeves, English*

The most important mosque for believers is Al-Masjid al-Haram (The Holy Mosque) in Mecca. The holiest mosque in the world, the Haram Mosque was built originally in 7th-century, but today 820,000 worshippers can be there and worship together. The second holiest mosque in the world is called Al-Masjid an-Nabawi (Arabic: ضريح النبي النبوي) or the Prophet’s Mosque in Medina, Saudi Arabia. “It stands on the site of a mosque built by the Prophet Muhammad himself next to his house and contains his tomb.” It is the Prophet’s grave, so Muslims from everywhere want to visit this mosque someday. The idea of pilgrimage to Mecca and other mosques is explained through students’ eyes. A slide show brings the mosques alive for the audience.
Reflections on Ramadan and Eid
Abdullah Alsalim, Rakan Aljehni
LaVona Reeves, English

Ramadan, a Muslim holiday, comes in the ninth month of the Islamic calendar and is when Muslims fast during daylight hours. Ramadan is called “the fifth pillar of Islam,” and it is believed that “The Qur’an was first revealed to the Prophet Muhammad during this month” on the night of Lailut ul-Qadr (“The Night of Power”). During Ramadan, believers try to give up all of their bad habits and become better believers by studying the holy book and praying much more than usual, with some trying to read the whole book during this period to gain “self-discipline, self-restraint and generosity.” Fasting is required. The end of Ramadan, “Eid-ul-Fitr,” is the Festival of the Breaking of the Fast. This is a kind of thanksgiving for the strength it took them to get through this fasting and praying holiday of Ramadan. Eid is a holiday about forgiveness and giving to the poor so they can dress well and eat good food for Eid too.

The Unspoken Envelope
Yasas Amarasinghe, Composer
Colin Boley, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

The Unspoken Envelope is a film that explores the importance of family, and the crises thereof, in parallel to relationships between friends and or lovers. The main character moves from a place where he is overly obsessed with his girlfriend and technology into an understanding of his place in the family unit. He does not yet understand the significance of having a close family relationship, instead preferring the companionship of his girlfriend to his immediate family. The film focuses on the perspective of a male high school student’s day, as his mother undergoes brain surgery and his girlfriend severs ties with him. The musical score emphasizes the main character’s ironically humorous behavior as well as the emotive aspect of the character’s transformation.

Delimitating Spokane’s Central Business District: An Urban Field Research Study, Part II
Patrick Anderson, Julianne Nilsen
Dick Winchell, Urban and Regional Planning

A Central Business District (CBD) can be defined as the commercial and cultural center of a city. Planning Methods II students applied a field research model by Lounsbury and Aldrich (1986) Introduction to Geographic Field Methods and Techniques. This model uses field research to delimit a contiguous CBD for central cities between 100,000 to one million people using land use and building height data. Students collected and analyzed data on land use and building height to delimit the CBD within the City of Spokane. This research is of great value for planners to understand the dynamics of the CBD. Part II identifies standard CBD land uses.
An Ecologically Based Invasive Plant Management Approach to Prairie Restoration on Mima Mounds at Turnbull National Wildlife Refuge

Kristin Anicito
Rebecca Brown, Biology

Invasive annual grasses (IAG) are a major threat to biodiversity in western United States. IAG replace native plants and increase fire frequency thus altering ecosystem structure and function. Biological soil crust (BSC) disturbance, which leads to a loss of fixed nitrogen, likely promotes IAG invasion. Little is known about BSC disturbance effects in semi-arid systems as most studies are from drier regions. My research goal is to find an effective control for IAG that will not harm native plant growth or BSC health by testing the following questions on a Mima mound prairie at Turnbull National Wildlife Refuge: 1) Will BSC disturbance increase vascular plant growth? 2) Which controls (herbicide, native seed, rhizobacteria, and sucrose) reduce IAG while maintaining native species over 1 and 3 year time scales? 3) Does active pocket gopher disturbance increase IAG? My results could improve IAG management in the western United States.

Narrative Criticism of Stephen Colbert’s Super PAC Satire

Jordan Apfelbaum
Patricia Chantrill, Communication Studies

While we all know that humans are storytelling creatures, sometimes the stories that we are trying to tell need to let the audience suspend their disbelief. Some of our stories are told through a dream or take place in a magical land that couldn't possibly be true. Some of our stories are “tall” tales that entertain us with their larger than life characters and settings. How can a storyteller help us suspend our disbelief? Stephen Colbert’s interview with Trevor Potter is used as a narrative to make the mundane paperwork and nuances of political finance interesting. Throughout the interview, Colbert walks a fine line of narrative fidelity while keeping a myriad of legal terminology coherent. Using this example I describe how Colbert’s use of narrative informs, educates, and entertains. I describe how Colbert does this by knowing his audience, keeping narrative fidelity and coherency, and crossing cultural boundaries.

Stay Off the Grass! Deontic Norms and Conditional Adherence of Defined Paths

Elaine Appleby
Lori Miller, Psychology

Deontic norms/rules are unconscious internal instructions gained through social learning that guide human behavior when lacking external instructions. The current study seeks to locate the existence of a deontic rule as regards the adherence and deviation from defined paths and to determine if there is a sex difference in the application, should it exist. I operated under the principle that, in the absence of external instruction, behavior is guided by internal instruction. Using a naturalistic observation design, I recorded the behavior of 711 individuals in a defined area of a NW urban college campus with no posted instructions. I recorded sex, adherence, and deviation. Data was analyzed with single group t-test for the existence of a deontic rule and independent groups t-test for sex differences. Results supported the existence of a deontic rule but did not support the equal compliance predicted; males deviated more than females.
Digital Steganography
Kyle Archueleta, Scott Watling
Min-Sung Koh, Engineering and Design

Digital steganography differs from normal encryption techniques. With encryption, the transmitted information looks random and tips off third-party observers that a user is attempting encrypted communication. If that person is traced, they can be punished just for having attempted encrypted communication regardless of the content. With steganography the sensitive information payload is placed within innocuous host data and is much less likely to alert third parties. In this project, digital info will be placed into a host image. The watermark will be invisible to permit hidden communication. A MATLAB Graphical User Interface (GUI) will be created which imports both the host image and the data to be hidden as a watermark. The host image and data will be analyzed and combined. The program will then export the data. The receiver portion will have a similar algorithm to reverse the watermarking algorithm and recover the hidden data in perfect form and should be able to easily detect tampering. This research study was conducted by Kyle Archueleta, Scott Watling, Mike Niewald, and Tom Kellogg.

Surviving Endometriosis
Rebecca Arens
Philip Watkins, Psychology

Endometriosis is a disease that affects millions of women around the world. Despite years of research, there is still much to be learned about the origin of endometriosis, and the amount of readily available information to the public seems scarce. Many women who suffer from, or know someone dealing with endometriosis provide support for each other, as well as information about symptoms, treatments, and links to specialists and more. Yet despite their efforts endometriosis is still very unheard of by many, including sufferers. My research delves into biological depths of endometriosis as well as the psychosocial side of living with the disease in order to spread awareness and insight as to how to survive and thrive with endometriosis.

Imposition
Teresa M. Asbury
Greg duMonthier, Art

Constructed of used canning jar lids and brads, this work explores the tension that exists between the actual and the ideal. It was created as a means of expressing the challenges one faces when confronted with changing inner, personal dialog while reconciling these changes with external realities.

It Sustains Me
Douglas Ault
Tom Mullin, Film

This short film is a romantic comedy adapted from the World War I era short story “Toy of Peace” by Saki. Both stories explore the idea of human nature, and whether or not it can be altered by an outside force. Filming took place over the course of Fall quarter, during which time the lead actor shed 30 pounds to stay consistent with the weight loss of the on-screen character. It Sustains Me stars Kelly Jo Caswell, Doug Ault and Dave Kotlan, was shot by Seth Mead, and was adapted and edited by Doug Ault.
The Elements of *Breaking Bad*; Giving the Credits Some Credit
Doug Ault
*Film*

Credits let the viewer know the names of the actors and actresses portraying the characters on-screen. The television show *Breaking Bad* takes a creative approach to their credits by using chemical symbols from the Periodic Table of Elements to replace a letter or two of the performer’s name. This presentation explores how the creators of *Breaking Bad* were able to use this seemingly innocuous visual gimmick to inject further information about each character and use the non-diegetic elements—the credits—to strengthen the overall piece.

A Market for Bodies: Slave Markets in the Ancient Greco-Roman World and the Sale of Human Merchandise
Anthony Austin-Walker
*History*

Slave markets in the ancient Greco-Roman world were packed with slaves waiting to be sold. The Greeks called for the use of slave markets in order to regulate the sale of slaves and to dispose of conquered or indebted individuals. Slave dealers habitually visited these markets to either sell their captured slaves or purchase human “merchandise” for reselling in another location. Similarly to other “goods,” the purchasing party not only had to pay the auction price for a slave, but they also had to pay a sales tax. In ancient Rome, the Edict of Aediles was established which required specific information to be disclosed regarding slaves put up for auction in order to minimize fraudulent practices. This research shows that Greek and Roman slave markets operated on similar spectrums; however, Rome saw a vast improvement in the area of regulation with the establishment of the Edict of Aediles.

Quixotic Queen, Rebellious Reformer or Home-Wrecking Hussy: Anne Boleyn’s Influence on King and Christianity in Tudor England
Tanya Bailey
*History*

Despite vast research on Tudor England, a controversial question still remains: what exactly was Anne Boleyn’s role in reformation? Was she a sincere reformer or an ambitious hussy who supported with sheer opportunism, any man or measure that would bring her to the throne? This paper seeks to uncover the truth behind her involvement in the English break from Papal authority by examining primary source material such as the Letters and Papers of Henry VIII and the writings of Boleyn contemporaries such as William Latymer and John Foxe. Critical analyses of many sources reveal a woman who balanced her religious values with a drive to be queen. These sources challenge three prominent, preconceived notions about Anne: 1) That she was ambivalent to the religious affairs and only used them to aid her rise to power; 2) That her religious leanings were all based on Henry’s changing allegiances; and 3) That Anne’s downfall had little to do with religion. My paper seeks to provide nuance to the Hollywood-produced version of Anne and contradict the public’s widely held assumptions about her.
Measurement of Engagement in Children
Kelly Baker, Jennifer Vigil-Bingman, Noranna Dixon, Carrie Brewster, Erin Beyer,
Roberta Russell, Occupational Therapy
Donna Mann, Occupational Therapy

This pilot study was designed to determine the validity of using behaviors, called indicators, to measure engagement in children with autism through video analysis. Video data was analyzed using interval recording for the following indicators: eye contact/joint attention, interaction for communication, affect/social responsivity, and functional attention. Four children, two with autism and two typically developing, were analyzed. Each child participated in applied behavior analysis activities and free play. The data was scored independently by four researchers and compared. Statistical analysis for reliability and internal consistency will be used to determine if the indicators are distinct, observable, and measurable. We intend to demonstrate that engagement, as defined by these indicators, can be quantified to aid in the development of a formal assessment to guide intervention with this population.

Joseph Stalin’s Famine Final Abstract
Noah Baker
Jerry Galm, Anthropology

Under the leadership of Joseph Stalin, the Soviet Union set in motion events that were to produce one of the most devastating famines of the modern era. This paper will examine how Stalin’s collectivization policies, first introduced in 1928, contributed to the great famine of 1932-1933. Collectivization resulted in the seizure of all privately owned farmland and livestock and was a direct assault on the power of the kulaks, or wealthy landowners. Stalin feared the power of the kulaks and declared them to be “enemies of the people.” Many kulaks were removed from their lands and left homeless, without so much as a single possession. An estimated 10,000,000 people located in the bread-basket regions of the USSR, stretching from the Ukraine in the west to the Kazakh Soviet Socialist Republic (SSR) in the east, perished. While collectivization policies did result in the starvation of millions, they also provided funding for the industrialization of the Soviet Union as Stalin anticipated.

Synthesis, Structural and Magnetic Study of a Family of Novel Complexes: [Cu(pyz)2MF6]⋅4H2O Where (pyz =Pyrazine) and (M= V4+, Cr3+, Mn3+, Fe3+)
Adora Baldwin
Jamie Manson, Chemistry and Biochemistry

The bifluoride ion i.e. HF2-, contains a two-coordinate H-atom exhibiting the strongest known hydrogen bond and as such, could serve as a synthon in crystal engineering applications including design of magnetic solids. Along these lines, recent experimental work on [Cu(HF2)(pyz)2]SbF6 has yielded a plethora of interesting magnetic phenomena but there is clear evidence for low-dimensional magnetism. Further chemical modifications can be implemented by replacing the H-center in HF2- with a magnetic metal ion (M), which should lead to stronger magnetic effects. Indeed, more profound effects are observed in [Cu(pyz)2MF6] including hidden magnetic ordering and abnormally large hysteresis. Preliminary data reveal a common structural symmetry for all of these phases, confirming the correct compound was indeed synthesized. Magnetic data show an increase in magnetic coupling through the Cu-F-M bridge with a concomitant enhancement in complexity.
Technology as Chaos, Nature as Order: Wizards and Apocalyptic Thinking
Antonette Barker
Julia Smith, Anthropology

Literary and pop culture references to apocalypses are an important American tradition. Many refer implicitly to biblical ideas: apocalypse as a confrontation between order and chaos, with order winning over chaos. The movie *Wizards*, by Ralph Bakshi, is an interesting example of shifting apocalyptic thinking in American pop culture. The 1977 movie explores a post nuclear apocalypse, identifying technology as the force of chaos, represented in the film by Nazi propaganda, that threatens order. Nature is depicted as the true order of our world. This is in marked contrast to historical models, which identified technology as order, while chaos was located in the natural world.

The Effects of Mindfulness on Risk Perception in College Females
Shanna Bartholomew
Kayleen Islam-Zwart, Psychology

Research suggests that women with a history of victimization show poorer risk perception of sexually dangerous situations than those without such a history (Abou-Ammo, 2010). However, little has been done looking at the impact of mindfulness on risk perception more generally. It was hypothesized that higher levels of mindfulness would be associated with better risk perception. One hundred and twenty female undergraduates (M age = 21.41 years; SD = 5.66) completed the Risk Perception Survey (RPS) followed by questionnaires including the Mindful Attention Awareness Scale (MAAS), and Kentucky Inventory Mindfulness Skills (KIMS). As expected, there was a negative correlation between mindfulness scores on both the KIMS (r = -.23, p < .05) and MAAS (r = -.24, p < .01) and rate at which the situations were exited. Results suggest that mindfulness may be beneficial for facilitating risk perception, but it seems context specific. Specifically, environmental cues may be present in the acquaintance situation that enable greater mindfulness or trigger vigilance.

Solar Panel Efficiencies
Dustie Beierle, Kathleen Puhlman, Courtney Bryant
Rodger Hauge, Education

In our presentation, we will explore the efficiencies of solar panels. It will be a multi-media presentation with opportunities for the audience to interact and engage with the presentation.

Heisenberg and *Breaking Bad*
Sage Bilderback
Tom Mullin, Film

A study of how the uncertainty principle discovered by quantum physicist Werner Heisenberg applies to AMC’s *Breaking Bad*. The character of Heisenberg in the show parallels the real-life Heisenberg in life and method—the Heisenberg Uncertainty Principle, which in philosophical terms states that the act of observation affects the outcome. These and other extrapolations are used to examine the structure of the show.
Promoting Production in Producers with Sucrose and Water Uptake Through Almond Tree Stems and Roots via Injection and Infusion.

Dustan Bilt
Suzanne Schwab, Biology

Environmental factors such as climate change, drought & fresh water shortage necessitate the examination of creative growing methods for food crops at risk. Almond trees can be cultivated using hydroponics in areas with limited water supply. I examined the increase in biomass of Almond trees provided with 8% sucrose in a hydroponic system to allow nurseries to accelerate tree growth before sending them to consumers. Thirty trees were divided into 5 treatments: 1) injecting sterile water 2) 8% sucrose solution into stems via a hypodermic needle 3) infusing water 4) 8% sucrose solution into a single root on each tree removing the root tip 5) a control group receiving no special injection or infusion. A one-way ANOVA followed by a Tukey pairwise comparison showed that 4 weeks after starting treatment all four treatments had significantly more leaves than the control (p=<0.01). There was no significant difference in the number of leaves among treatments. Nurseries may benefit in providing supplemental sucrose or water to trees to increase biomass & hardiness before distributing them to customers.

Friends with Benefits: The Beginnings, Rules and Ends

Koby Binks
Theresa Martin, Psychology

This study explores how persons in Friends with Benefits relationships initiate, manage (i.e., develop rules) and end such relationships.

The Best and Worst Qualities Found in a Coworker According to Men and Women

Jhinelle Boggie
Lori Miller, Psychology

The purpose of this study is to determine the personality traits preferred and disliked by potential colleagues, and to compare the types of characteristics favored or disliked by men and women. I will present a survey with two categories. The first category contains seven generally positive traits, and the participant will be asked to choose his or her three most preferred characteristics in a coworker. The second category list will consist of seven negative qualities and the participant will choose the three qualities they dislike most in a coworker. I will compute which answers were most endorsed in both categories and compare mean differences. I believe that men and women will favor different traits.
A 20-Year-Old Male Collegiate Football Player with a Fibular Fracture and a Grade III Syndesmotic Sprain
Breann Booher, Kent Wilcox, Shawna Crosley, Jake Howell
Garth Babcock, Physical Education, Health and Recreation

Lower leg fractures are quite common in contact sports such as football. Typically, the tibia and fibula are broke simultaneously and rarely, one is fractured alone. The authors of this case study discuss the unique case of a Fibular Fracture with a Grade III Syndesmotic Sprain. The specific injury occurred in a 20-year-old male Division I football player during game play in fall of 2011. Surgical intervention, treatment, and rehabilitation are explained for this distinctive case as well as the significance and predisposition to injury due to the patient’s position of Offensive Guard.

Identification of Novel Translocated Helicobacter pylori Virulence Factors Using Saccharomyces cerevisiae as a Model Eukaryotic Cell
Amelia Bothwell
Andrea Castillo, Biology

Helicobacter pylori infects the stomachs of 50% of the world’s population and leads to severe gastric disease in ~10% of infected individuals. Severe disease has been correlated with H. pylori capable of translocating CagA into host cells. It is speculated that there are additional translocated factors that contribute to disease. To identify these factors, I will express the entire H. pylori genome in a model eukaryotic cell, Saccharomyces cerevisiae (yeast) and look for lethal affects. I am currently building an H. pylori genomic library in an inducible yeast plasmid that will then be transferred into yeast. The H. pylori genes will be expressed when the yeast is grown on media containing galactose, but not on media containing glucose. Lethal, potentially translocated H. pylori proteins will be identified based on their killing of yeast grown on galactose.

(Hume)an Identity: The Passionate Meme
Christina Bowman
Kevin Decker, Philosophy
Mimi Marinucci, Philosophy

Throughout his works, David Hume continually questions the nature of personal identity. Because of his epistemological skepticism, Hume points to the self as little more than a series of impressions, rarefied into vague ideas confirming one another. It is from this conception of the mind that I hope to argue that that which we call “the self” is a meme. Selfhood is established through experience and propagated through the exercise of the passions within the context of David Hume’s work. Utilizing his concepts of the mind, the memetic theory is not only supported, but it flourishes, expounding upon his notions of the mechanisms of the mind and bolstering the notion of the self as an emergent phenomena.
Tradition, Literature and Ecofeminism
Christina Bowman
*Paul Lindholdt, English*
*Mimi Marinucci, Philosophy*

Literature is both a means of the expression of and the investigation into the human condition, and it is through critical theory that one is able to more deeply understand the mechanisms involved therein. As a critical literary tool, the ecofeminist perspective offers a look into the special relationship between women and the environment. While both ecological and feminist criticisms are respected within the critical literary paradigm, their intersection offers startlingly lucid insight into issues the depth of which neither can fully express independently. Each critical perspective presented has the capacity to alter the lens through which we look at the world, and this burgeoning field offers a valuable perspective that might otherwise be left unseen.

Document Design with Get Lit! at EWU
Laurie Bowman
*Molly Johnson, English - Technical Communication*

To satisfy the requirements of my degree in Technical Communication, I am currently completing an internship as Web Editor for the Get Lit! Program at EWU. The program sponsors an annual festival that promotes literary appreciation in the Spokane area. The festival, which occurs every April, promotes events that connect the local community with nationally recognized authors who specialize in a variety of writing disciplines, which include fiction, non-fiction and poetry. In addition to the literary festival, the program sponsors workshops for area schools year-round. As the web editor for Get Lit!, I am responsible for updating website content, creating a monthly email newsletter, optimizing images for the web, and designing both online and print documents. Overall, my internship has allowed me the opportunity to apply many of the writing, graphic and web design skills I have acquired through the Technical Communication program at Eastern Washington University, promoted my interest in community outreach and encouraged my love of literacy.

Solar Race Cars
Shawna Brady, Corissa Blix, Racheal Ryser, Rachel Binger, Jamie Lawrence
*Rodger Hauge, Education*

We will be presenting solar race car design, comparing and contrasting the differences in speed according to the design of the car. We will be presenting with a poster and an interactive presentation.

Benjamin Braudrick  
Dick Winchell, Urban and Regional Planning  
Fred Hurand, Urban and Regional Planning

The culmination of the long history of timber resources in the Pacific Northwest has gone from corporate greed and exploitation spurred by land grabs and land speculation promoted by the government to stimulate settlement, to a highly regulated but efficient restructured forest industry framed around resource constraints. The small settlements that were formed, prospered, and are now in decline will be shown to be mostly excluded from participation in FEMAT and the current timber management plans. This paper will offer new steps and alternative actions that can again frame the region’s future with these communities and their long-term prosperity as part of the solution.

“You Can’t Stop the Beat”—Hairspray

Stacia Bruner, Alexandra Rannow, Aaron Taylor, Joshua Taylor, Marlee Andrews, Lexi Hoffpauir, Kyle Kahklen, Jordan Wood  
Jeffery Sanders, Theatre

This is an eight-person, choreographed performance to the song “You Can’t Stop the Beat” from the hit Broadway musical Hairspray.

Effects of 17 β-estradiol on the Muscle Physiology, O2 Consumption, and Aggression of the Signal Crayfish (Pacifastacus leniusculus)

Justin Burrows, Nathan Doneen, Mary Lewin, Jake Ponce  
Joanna Joyner-Matos, Biology  
Tom Hancock, Biology

We examined the effects of 17 β-estradiol (E2) exposure on adult signal crayfish (Pacifastacus leniusculus). Three groups of eight crayfish (4 male, 4 female) were exposed to 0 ng/L, 25 ng/L, and 100 ng/L E2 solutions for two weeks. Aggression was timed at three points during exposure; there was no statistically significant difference in aggression between crayfish in different treatments. O2 consumption was measured by closed respirometry; O2 consumption was higher in the 25 ng/L group versus the 100 ng/L group (p value=0.0249). After euthanizing according to WDFW guidelines, total muscle protein was quantified with a bicinchoninic acid (BCA) assay; muscle protein was higher in the 100 ng/L group compared to the control group (p value=0.0212) and higher in males of the 100ng/L group than the control group (p value =0.0016).
**Metal Occurrence and Basic Nutrition in Dog Food**  
_Hannah Campbell, Jamie Gardipe_  
_Carmen Nezat, Geology_

Regulation of dry dog food is limited in the U.S. Contaminations in the past suggest the possibility for low nutrition concentrations and high heavy metal concentrations. This study was designed to test 12 samples of dry dog food varying in price to determine if the expensive brands had better nutrition and contained fewer heavy metals. Each sample of dog food was powdered, digested in concentrated nitric acid on a hot plate and then tested for nutrients (such as Ca, K, Mg, and P) and other metals, which can be toxic in high concentrations (e.g., Cd, Cu, Pb, and Zn) with an ICP-OES. Metals were not detected at toxic levels but the nutrient percentages compared to American Association of Feed Control Officers’ recommendations fell short in many brands. Hairs and fibers were found in some samples of cheaper dog foods; closer examination by microscope suggests the hairs are likely bovidae (e.g., cow) and plant fibers.

**U-Pb Ages of Plutons near Long Lake Dam and Little Falls Dam, Lake Spokane, Washington**  
_Hannah Campbell_  
_Chad Pritchard, Geology_

Extensive outcrops of granitic rock are found along Lake Spokane in northeastern Washington; they have been mapped and assumed to be Cretaceous in age. Studying intrusive igneous rocks aids in mapping complex geologic structures and helps determine the geologic history. Eleven samples from the Little Falls and Long Lake Dam Quadrangles were phaneritic to porphyritic granite, granodiorite, and quartz monzonite (77.7-63 wt% SiO2). U-Pb age dating of zircons was conducted using a Laser Ablation Inductively Coupled Plasma Mass Spectrometer at WSU GeoAnalytical Lab to laser zircons from seven samples. Results from the age dates are grouped into two crystallization ages, one is ~45-53Ma ago and the other is ~90-96Ma ago. These age dates fall into the Eocene Epoch and Cretaceous Period in the geologic time scale. With age dating we can constrain the igneous activity to the Cretaceous and Eocene and relate it to regional crustal lengthening.

**Surviving the Modern Internet**  
_Andrew Canfield, Jordan Thompson, Kylie Martonik_  
_Carol Taylor, Computer Science_

Computers have taken over our lives and are now under attack by both the curious and the malicious at the individual, group and state level. Recent attacks include the Iranian Nuclear reactors taken offline, Sony credit card information stolen and Visa’s payment servers taken offline. Yet security is still an afterthought in development, infrastructure and employee training. By simulating an actual intrusion we can learn the skills necessary before real data, real information, and real people are at risk. In an experimental class we began to explore information warfare, we then participated in the Pacific Rim Cyber Defense Competition to test our skills in a real world simulation against professional penetration testers where we placed 2nd out of 11 teams. In this talk we will describe what we learned and what the user needs to know about surviving the modern internet.
Traditional and Contemporary Music of Taiwan
Kun-Wen Chen
LaVona Reeves, English

“Using music to rediscover Taiwanese identity” (Ulaby, 2012) a number of Taiwanese composers and musicians, such as Hsieh, have been exploring traditional Taiwanese music, including songs from Aboriginal tribes. The audience for this music—including heavy metal versions—is often old people who remember times when music was suppressed and who smile to see the young people feeling so free to express themselves in public. Other groups like Chthonic draw from mythology and human rights history to get their message out in song. Hsieh, who studied in NYC, started her group, A Moving Sound, and she writes songs like “The Market Song” to honor her parents who were street vendors. Her music sounds local but has many influences from inside and outside Taiwan. Other groups like Kou Chou Ching incorporate Taiwan’s multi-ethnic populations by putting in “multiple indigenous dialects and lyrics” and local expressions.

Icon of Two Sides: The Duality of Muhammad Ali
Robert Cimball
Chadron Hazelbaker, Physical Education, Health and Recreation

The purpose of this study is to evaluate the living legend Muhammad Ali, also known as Cassius Clay, and highlight the events that showed a duality of masterful flamboyancy and leadership. Ali, the icon, is known for the flamboyant bad-boy boxer and the ideal Black Muslim leader of peace. This duality of two personas are contradictory and cause conflict through the events of his life, but help all of us to understand that our self-destructive nature can push us to do good things.

On Believing in Belief
Alexander Clardy
Thomas Hawley, Government
Kevin Pirch, Government

In this essay I would like to explore the difference between being religious, and understanding what religion has to offer people. Some such as Richard Dawkins believes that religion is an unnecessary crutch for people to get through life, others such as Richard Rorty, believe that some atheists are being too militant and should be more pragmatic in looking at the spiritual and stabilizing help that is provided through religion. Regardless of the existence of a god or gods, how does religion help people, and is it worth the cost?
Teaching with Technology
Lynn Clark
Kevin Pyatt, Education

Education Technologies are changing faster than educators can keep up with them. Twenty-first century fluencies impact how teachers teach, how students learn, how we connect with our community and world. They include teaching higher-order thinking skills and using appropriate learning tools and technologies. The keys to raising student achievement are to provide students with a solid foundation of basic skills and to motivate them to learn. Technology can help accomplish this goal. It engages students and fires their imaginations. It helps teachers stimulate young minds in ways that make a profound and lasting difference. Numerous research studies on the impact of technology on student achievement have demonstrated this finding with remarkably similar results. (Apple Education Research, 2011).

Finite Element Analysis of Orthotropic Materials
Joseph Cluever
Awlad Hossain, Engineering and Design

Finite Element Analysis (FEA) is a numerical tool to simulate and analyze real world engineering problems. For simplicity in analysis, most of engineering materials are considered “isotropic,” where the materials response is the same in different orientations. For example, the mechanical responses of steel would remain the same when stretched along the global x-, y-, and z- directions. However for some materials, such as wood and composites, the mechanical responses are different when a load is applied along different directions, these materials are said to be orthotropic. We have developed a vehicle for HPPV competition out of papier-mâché products. This research demonstrated the experimental work of papier-mâché, which offered an orthotropic response when loaded at different directions. The orthotropic material properties were then implemented in FEA code ANSYS for structural analysis of the HPPV vehicle. The numerical results were then compared when analyzed with isotropic and orthotropic material properties.

Testing Rocket Propellant Mixtures
Joseph Cluever, Cody Gary
Martin Weiser, Engineering and Design

As a by-product of the space race, model rocketry has formed into a hobby with some very enthusiastic participants. Most rockets that people are familiar with are generally less than three feet long and can be easily purchased as a kit from any hobby shop then flown repeatedly using prebuilt motors. A larger option is high power rocketry, which uses much larger motors and larger rockets capable of reaching heights of over 100,000 feet. To be able to do this, rocket motors must be carefully tuned to give the right burn characteristics. This research developed a methodology and equipment for convenient and economical testing of rocket motors that will provide the experimenter with meaningful data in regards to pressure inside the rocket motor while burning as well as the thrust produced by the motor.
Banning Barbie: A Political Paradox
Joseph Coffee
*Majid Sharifi, Government*

In the mid-1990s the Iranian government banned the sale of Barbie dolls. Contending that Barbie threatens Islamic values, the state passed a series of laws designed to punish merchants who sell Barbies, subsequently subsidizing the production of what it calls Islamic dolls. Known as Dara and Sara, the dolls represent a safe alternative to Barbies. Sara is the Islamic version of Barbie. She is a hejab-wearing doll that symbolizes the official ideal-typical of how a Muslim woman should look. The hejab covers her hair and body, supposedly, to keep the Iranian/Islamic values safe from Western cultural invasion. In addition to legislating dress code for dolls, the regime enforces a set of strict dress codes for both men and women. However, legislating morality has not been politically popular. Considering that severe Western sanctions have been imposed, Iran needs all of the popular support that it can muster. It is puzzling as to why the regime continues to pursue unpopular policies.

RefWorks Service Learning
*Dylan Coil*
*Molly Johnson, English - Technical Communication*

My symposium poster project will outline work I completed last spring for the Technical Communications course, English 205. For English 205, a group of students and I developed a set of instructions for the research software, RefWorks, and then delivered a presentation of those instructions to a group of English 101 students. The aim of my poster would be to illuminate the struggles I had working on my first service-learning project as a student minoring in Technical Communication. Key points would include how my team and I developed the instructions, challenges associated with giving a 45-minute presentation to mostly first-year students, and my experience working in a group setting. The goal of this poster would be to demonstrate another way service learning has been used at Eastern Washington University.

Wind Generator Blade Design
*Tyler Colean, Johnell Agee, Lisia Stuart, Daniel Garza, Derek Funk*
*Rodger Hauge, Education*

We will be taking different blade design/materials to find the most effective design/material combination that will be the most efficient in terms of creating energy via wind.

Towards a Rethinking of the Occupy Movement
*David Collins*
*Mimi Marinucci, Philosophy*
*Chris Kirby, Philosophy*

During my first year at Eastern Washington University, a movement has emerged which has already started to change the discourse of American politics. This movement is called Occupy and has spread to hundreds of cities across the United States and the world. In a paper submitted to Z magazine (of which, the author is still waiting to hear word of the status of its publication), I discuss the utilization and deployment of traditional anarchist methods of resistance within the Occupy movement. Drawing heavily on the writings of Emma Goldman, I further intend to dispel some of the myths traditionally associated with anarchism.
Bibliotic Analysis of a Stele of Ji Wang Sheng Jiao Xu
Victor Colton, Daniel Fockler, Daniel Stokes, Seth Gossler, Kenny Cleveland
Kosuke Imamura, Computer Science
Steve Simmons, Computer Science

The goal of this team project in software engineering is to provide the software framework necessary for the bibliotic analysis of a stele of Ji Wang Shen Jiao Xu, a collection of calligraphic works created by Wang Xizhi (303-361). Known as the “Calligraphy Saint,” Wang is considered by many to be one of the most esteemed Chinese calligraphers of all time, and his works are study by nearly all Chinese calligraphy students. The stele is a collection of Wang’s works aggregated from various sources by Huai Ren during the Tang Dynasty, at the request of Emperor Tang Taizong. The overarching goal of the research is to analyze the characters in the stele for authorship to determine the original sources from which each character was drawn.

Asteroids Game
Victor Colton, John Smith
Kosuke Imamura, Computer Science

This is an implementation of the Asteroids game originally released in 1979, designed using the Verilog hardware description language. The game was created to demonstrate a practical embedded computer application with keyboard input and video graphics output. The keyboard is used as an input device to receive instruction from the user to control the ship rotation and firing of torpedoes. The video graphics provides feedback to the user regarding the status of the game.

A Sociolinguist Perspective on Spanglish
Grace Cooper
Michael Zukosky, Anthropology

Through extensive research and experience, I define Spanglish as a mixture of the vocabulary and syntax of English and Spanish. Within the linguistics literature, a debate continues to arise when attempting to label Spanglish as a dialect, a language variety, or an independent language. Beyond just simply labeling Spanglish, the debate over the linguistic nature of Spanglish is a battle of social ideologies and attitudes. For example, those who consider Spanglish to be “slang” or “crippled Spanish” also insult and degrade Spanglish speakers. By presenting a critical sociolinguistic view, this paper argues that negative language attitudes and ideologies within the US have detrimental impacts on both a micro and a macro level for Spanglish speakers.
The Underground Movement: Sensory Modalities Utilized in Foraging and Navigation by Pocket Gophers
Dustin Cousins
Margaret O’Connell, Biology

My research examines the use of olfaction and magnetic reception by the northern pocket gopher, Thomomys talpoides, while foraging and navigating in its burrow system. Living underground imposes many environmental constraints, including increased energetic costs of excavating and maintaining tunnels and reduced sensory cues. Fossorial rodents from other continents have been shown to use the earth’s magnetic field and olfaction in navigation, but this has not been investigated in the North American T. talpoides. I used a combination of field and laboratory experiments to examine the use of olfaction and magnetic reception by T. talpoides. T-maze results revealed that gophers selected soil in which carrots were grown over fallow soil. This indicates gophers can detect chemical cues from growing plants. Preliminary analysis of field and laboratory tests suggests use of magnetic reception in the former but not in the later.

EWU Sustainability Project: Collaborative Roots Permaculture
Kelsey Crane, Nathan Calene
Laurie Morley, Physical Education, Health and Recreation
Robin O’Quinn, Biology

The EWU Sustainability Project is working on transitioning EWU and the community towards a more sustainable culture in both action and theory. We are EWU Representatives of The Real Food Challenge National Initiative striving to commit our campus to the procurement of 20 percent Real Food (locally based, ecologically sound, humanely raised, fairly traded) by the year 2020. Our objectives are to reach out to the community through a variety of service-learning endeavors to introduce permaculture-based campus gardens throughout our region, calling special attention to the urgent issue of food insecurity. Ultimately, we wish to alleviate food deserts and build ecological awareness throughout the world through GIS overlay mapping, earth stewardship, and strategic planning. We see the future of communities as well-connected hubs built upon thriving local economies, environmentally conscious and productive citizens, with equal access to healthy food and social opportunity.
Large Landslide Discovered Using Stratigraphy of the Columbia River Basalts, Deep Creek, Riverside State Park, Spokane, Washington

Cody Crim
Linda McCollum, Geology
Chad Pritchard, Geology

Basalt stratigraphy was examined and described at the Bowl and Pitcher, Deep Creek, and the Highland Quarry to establish which basalt units may be present in Spokane County. Geochemistry of basalt samples was used to differentiate between units, based on data presented by Hooper (2000) and Reidel (2005). Samples ranged from 54.1 to 56.5 wt% SiO2 and 1.85 to 2.43 wt% TiO2. Based on magnetics, textures, and geochemistry, we documented two separate members at the Deep Creek site. The bottom member was measured to be approximately 180 feet with a normal magnetic polarity; the top member was measured to be approximately 96 feet with a reversed magnetic polarity. Geochemical discrimination revealed a younger basalt unit at the base of the section, in the creek. This younger unit can also be found up slope on top of the hill overlaying the Latah Formation. Therefore, we concluded this block has slide approximately 300 feet down slope on top of the clay-rich Latah Formation.

Service Learning—Experience That Makes a Difference

Andrew D'Ewart
Molly Johnson, English - Technical Communication

Completing a five-credit internship is required to obtain a Bachelors degree in Technical Communication. To fulfill that requirement I volunteered my services and skills to a local 501c3 organization called RiteCare Spokane. RiteCare is an organization dedicated to providing speech therapy to children aged two to seven, free of charge. This organization provides a service to my community that I truly care about and am thankful for the chance I had to assist them in their goals. They gave me an opportunity to strengthen most of the skills I’ve gained through my program, including design, web design and instruction writing. The opportunity to provide services to my community—while gaining worthwhile experience and personal contacts—was an indispensable aspect of my education. I intend to create a poster that reflects on my experience in a way that portrays the importance of service learning and the impact it has on our local community and the students who have the chance to get involved.

Characteristics of Grateful People

Oliver Davidson, Cody Jensen, Andrew Pereira
Philip Watkins, Psychology

Research has shown that being a grateful person has many benefits, but what does a grateful person look like? This is the question we attempt to answer in this study. In the past researchers have used the “Big Five” personality traits to examine the characteristics of grateful people. Research on the characteristics of grateful people using the “Big Five” has produced varied results. Lee and Anderson have argued that a sixth trait needs to be added to the “Big Five.” They developed the HEXACO scale, which includes honesty-humility. Our lab examined the correlation between honesty-humility and gratitude. We evaluated trait gratitude as measured by the GRAT and GQ6 and compared it with humility as measured by a new self report humility measure (Kope et al. 2006) and the HEXACO. We hypothesized that a certain level of humility is necessary to experience gratitude and predicted a positive correlation between the variables.
From Dig to Display: Archaeology as Context and Exhibition
Cory Davis
Michael Zukosky, Anthropology

The responsibility of the archaeologist is usually associated with fieldwork and excavation, yet the influence of
the archaeologist goes well beyond the field. The artifact, as a piece of material culture, is brought out of a
context and placed into another when it leaves the field site and enters the museum. This study wishes to look at
the interpretation of artifacts as they appear in museum exhibits and recent developments in archaeological
theory. What are the contemporary goals of the archaeological exhibition of artifacts? In particular, how have
theoretical developments about the nature of artifact interpretation changed the way museums curate and
visitors look at the artifact in the exhibit? In the light of changing exhibition curation, how do curators deal with
multiple interpretations and, thus, the objective education of the public? This study will not only discuss new
and developing ideas in archaeological theory, but make them visible in the portion of archaeology most
common to the public: the museum.

Giving Back! An Evaluation of Students’ Willingness to Support an Increase in Their Transportation Fee.
Nick Dean
Ryan Sain, Counseling, Educational and Developmental Psychology

Starting in winter quarter of 2012 one of the authors discovered how deeply discounted our student
transportation fees really are. A full time student is currently paying $6.50 per quarter for their bus passes
(STA). This is approximately $.07 per day for unlimited use of the STA system. The current rate for a 31-day
pass from the STA is $45 ($1.45 per day). We created an online survey and made it available campus wide to
see if students would be willing to support increases in their transportation fee. Results indicate that student
would be willing to support some increases in the fee on a quarterly basis. Additionally we were investigating
whether students used a QR code to access the survey or used a typical browser and entered the web address.
Data indicate that the QR code was not the most popular method for accessing the survey, counter to our
hypothesis.

Attitudes and Perceptions of Baby Mommas and Baby Daddys
Amanda DeBleeker, Celeste Wilson
Theresa Martin, Psychology

This study investigates the attitudes and perceptions of the general public towards persons identified as being
either a “baby Momma” or a “baby Daddy.” Roles and expectations are also explored. Data reviewed are part of
ongoing study of EWU students.
SNP Analysis of Intra-herd and Inter-herd Genetic Diversity of Ancient *Bison bison*

Marina Defrates, Nicole Hamlin, Kelly Ann Cameron, Austen Frostad

Institute of Science and Technology at North Central High School

Randy James, Biology

Steve Fisk, Anthropology

Bison populations have expanded from a near extinction at the end of the 19th century due to over exploitation and habitat loss. They now number in the hundreds of thousands, but their genetic purity and diversity is in question. The genetic effects of this severe bottleneck are compounded by cattle gene introgression due to intentional and non-intentional interbreeding with cattle from the late 16th century forward. Our analysis, using ancient bone samples, of Bison prior to the introduction of cattle and the bottleneck, reveals both intra- and inter-herd diversity and baseline allele frequencies of specific mitochondrial alleles.

---

An Exploration of Color Field: Form and Process

Megan Delzell

Jamie Hahn, Art

Tom Askman, Art

I attempt to deconstruct an image into textures, colors, and forms. By breaking down a recognized form, the image focuses on simplicity and fundamentals. By examining the relationship between parts of the whole, each image can be an individual work, and a piece of a work. Using historical forms of photography, such as Polaroids and Infrared firm, works can come together and merge in an appreciation of imperfection and texture. Past and present can embrace to create a process that is unique with each composition.

---

An Analysis of Human Alu Insertion Frequencies Using Alu Specific PCR and Hardy-Weinberg Analysis

Tyler Dennis, Nicole Hamlin, Corey Horn

Institute of Science and Technology at North Central High School

Randy James, Biology

Steve Fisk, Anthropology

The objective of this research was to assess genetic diversity using Alu insertion frequencies to further our understanding of human population genetics. Comprising twelve percent of the human genome, Alus cause shifts in a genome in many ways including changing the regulation of genes and shifts in recombination during meiosis. Cheek cells provided the genomic DNA that was analyzed using PCR and Alu specific primers. Resulting insertion frequencies were further analyzed to identify if specific Alu loci are in Hardy-Weinberg equilibrium.
Thermal Analysis of a Halogen Light Fixture
Vadim Derkachev
Awlad Hossain, Engineering and Design

In this research, a finite element analysis (FEA) is performed to better understand how the temperature of the light bulb plays a role in the design of the light fixture. In this study a Lithonia light fixture is evaluated for the thermal analysis. The analysis includes how material must be evaluated, and carefully chosen for the right application. First, a Solidworks model is created and then exported to the FEA software ANSYS Workbench. A transient thermal analysis is conducted using 500W Halogen light bulb to see how the temperature profile is changing with time. In addition, a static analysis is performed to evaluate the housing deformation due to non-uniform thermal load.

Information Design Affects the Functionality of a Document
Codie Deyo
Molly Johnson, English - Technical Communication

Corporations design documents with good intentions of collecting valuable data, but fail due to poor functionality. Often document creation focuses on the end result: collecting data. Creating user-friendly, concise, and effective forms is challenging. If document designers apply Gestalt principles, Grice’s Maxims or Peirce’s Semiotic, they will improve the functionality of the document.

The Benefits of Death
Jason Dietzel
Kevin Decker, Philosophy
Mimi Marinucci, Philosophy

I would like to discuss the benefits of death. This is not in regards to an individual who has passed on from this life. It is not an attempt to demean or belittle the loss of life. Rather I would like to focus on the greater value that comes from having a life that at some point comes to an end. I will come at this from mostly a philosophical perspective, but I will most likely throw in some aspects of psychology. The purpose of my argument is to provide counterpoints to a rather mainstream belief that an immortal life would be a better life and that one of the main things that gives us value and meaning in our lives is the fear of death or the recognition that our lives will end at some point.

Black & Blue
Tyler Dines and K. Michael Fox, Co-Composers
Shay Smith, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Black & Blue is a story about a high school boy, Ethan, who finds interest in a girl, Ruth, who has a boyfriend. Although Ruth has a boyfriend, she hooks up with Ethan. Ethan finds out that Ruth has become single through Facebook on his phone. Little does he know that Chris, Ruth’s boyfriend, has found out about the love affair. The film score was created to enhance the experience.
The World’s Most Productive Desert
Simon Doi
Richard Orndorff, Geology

California’s Central Valley is one of America’s driest regions; year after year it will receive less than 10 inches of rain per year, yet somehow it is the most agriculturally productive region in the entire nation. Twenty-five percent of all the produce Americans consume comes straight from the Central Valley. How is this possible? How does an environment naturally supports cactus grow enough food to feed a nation of over 300 million? The heavy reliance on groundwater has fueled America’s fruit basket for the better part of the last century, but at what cost is this productivity? The mining of groundwater in the Central Valley region has led to land subsidence on an unmatched scale, the San Joaquin Valley today sits well over 30 feet below its original position before the invention of the centrifugal pump.

Vulnerable Among the Vulnerable: Disaster Relief Through the Lens of the Famine
Melissa Doty
Heather Robinson, Communication Studies

This dissertation examines the role of gender in disasters. Looking through the lens of the famine, one can see that women are vulnerable among the vulnerable during times of crisis. Gender is a factor and, therefore, must be addressed by government agencies and non-profit organizations. The famine provides a unique opportunity for international conversation and change. For this paper, I wish to delve deeper into the lack of representation and the plight of women facing disaster. I intend to look at this topic through the lens of the famine, while stating that it illustrates a pattern common in other disasters.

Effects of Caffeine on VO2 and VCO2 Kinetics During Supramaximal Cycling in College-Aged Adults
Ken Dragoo
Wendy Repovich, Physical Education, Health and Recreation

The aim of the present study was to determine the effects of caffeine on VO2 and VCO2 kinetics during supramaximal cycle time-to-exhaustion (TTE) at 120% maximal oxygen consumption. Seventeen subjects were given caffeine (C) or a placebo (P) 30min prior to testing. Subjects cycled at an unloaded resistance. The TTE intensity was applied without notice until volitional exhaustion. VO2 and VCO2 were continuously measured and fitted to the model $X(t)=SS+A\{1-\exp\[-(t-TD)/\tau]\}$, where $X(t)$ was VO2 or VCO2 at time $t$, $SS$ was the steady state at unloaded cycling, $A$ was the amplitude, $TD$ was the time delay, and $\tau$ was the time constant. Mean reaction time (MRT) was calculated as $MRT=TD+\tau$. VO2 $\tau$ (P=53±16s, C=60±12s), VCO2 $\tau$ (P=71±15s, C=80±18s) and VCO2 MRT (P=79±17s, C=87±18s) were significantly greater for caffeine (p<0.05) while all other variables were similar (p>0.05). Caffeine delayed VO2 and VCO2 kinetics during supramaximal cycling with caffeine.
A Truly Loathly Lady
Kirsten Dresker
Logan Greene, English
Beth Torgerson, English

The loathly lady archetype can be found in sagas, legends, myths and fairy tales from all over the world and throughout time. The archetype involves a transformation present in all versions—an ugly, old hag, transforming into a beautiful, young woman. Through transformation she reveals her true self, tricking readers and characters alike. In its simplest form the trickster figure is one who morally deceives or cheats, and we see this deception by the loathly lady as she pretends to be just an ordinary old hag. As a trickster archetype her role is to deceive or trick the protagonist in order to teach a point. Through the role of the trickster the loathly lady adds disorder to order and makes the impossible possible, not always within the bounds of what is permitted. In modern times we see the character archetype re-used in fairy tales and myths such as Beauty and the Beast, Snow White, and most recently Disney’s Tangled. The loathly lady sneaks into new worlds as a trickster, transforms the thoughts of readers, and pushes the boundaries of reality.

An Analysis of Adaptive SNP Frequency Within ATP 6 Within Mule Deer Populations in Washington State
Taylor Duncan
Institute of Science and Technology at North Central High School
Randy James, Biology
Steve Fisk, Anthropology

Large mammal populations across North America underwent dramatic population losses due to over harvest and habitat destruction and change during the 19th and early 20th century. These same populations have emerged from this dramatic bottleneck and are for the most part at sustainable populations. Mule deer (Odocoileus hemionus) are one of those populations that are now at sustainable numbers but are at risk due to continued habitat loss and loss of genetic diversity and gene flow. Populations that emerge from bottlenecks can experience significant genetic drift due to the presence of rare mutations in the founding populations. The mitochondrial gene, ATP 6, has been found to have significantly high mutation frequencies within other ungulate populations that have undergone bottlenecks. We used ATP 6 specific PCR and DNA sequencing to analyze Washington State Mule Deer populations for baseline mutation frequencies as a measure of gene flow and population hardiness.
Intent to Cohabitate: A Test of the Theory of Planned Behavior
Cathleen Dunlap, Blaine Bart
Theresa Martin, Psychology

This study represents a test of Fishbein & Ajzen’s Theory of Planned Behavior (Fishbein & Ajzen, 1975) testing intentions to cohabitate. Specifically, we investigated the influence of sensation seeking, personal attitudes, and attitudes of important others on participants’ intention to cohabitate. Participants included 154 undergraduate, never married, non-cohabitating students. Using multiple regression, we found our variable produced a significant model (R^2 = .76) but that only personal attitudes regarding cohabitation were a significant predictor of intention to cohabitate. We suspect that sensation seeking doesn’t enter into the prediction model until persons are in a sexually active, committed relationship for some period of time. Finally, in our discussion we address why looking at intention to cohabitate offers additional information to the literature on the relationship between cohabitation and higher divorce rates.

Drunk and Hot Chick: The Effects of Stereotype-Confirming Priming on Prejudiced Opinions Towards Social Sorority and Fraternity Members
Tasia Duske
Theresa Martin, Psychology

Although membership in a social sorority or fraternity has been praised for contributing to the development of leadership skills and striving for excellence, historically, social sororities and fraternities have been the target of negative stereotypes and prejudice. The present study examined the effects stereotype-priming had on evaluations of a social sorority or fraternity target. Two experimenters (one male and one female) introduced the study. Three experimenter conditions existed for each: Greek letter/stereotype-confirming, Greek letter only, and plain (no message) t-shirt. Participants completed a measure of stereotypes toward social sorority/fraternity members and the general student population. It was predicted that participants would have the most negative evaluations in the Greek letter/stereotype-confirming condition followed by the Greek letter condition and then the no message condition. No experimenter gender effect was anticipated.

Classroom Technology Integration Strategies
Nathan Dutton
Kevin Pyatt, Education

The purpose of this poster is to highlight three likely technology integration strategies for use in the classroom. Web 2.0 tools have been highlighted as excellent types of technologies that are customizable, easy to implement and engage students (Su and Beaumont, 2010). Microsoft PowerPoint games can be created and implemented by an instructor who wishes to give their students a unique learning environment. Although this is a game, students have shown better learning and retention while using this integration strategy. Classroom web pages in the forms of blogs, Wikispaces, and Protopages have been shown to increase collaboration and engagement of students, parents, peers and communities (Wright and Wilson, 2009).
Age Affects Aerobic Exercise-Induced Reductions in Pain Sensitivity in Female Sprague-Dawley Rats

Cheryl Dykstra-Aiello
Karen Carlberg, Biology

Age differences may exist in the pain experience. Exercise is known to reduce pain perception. We examined age effects on exercise-induced hypoalgesia in aerobically trained female Sprague-Dawley rats. Our previous study found that running started in youth (age 11 wk) significantly reduced pain sensitivity in middle-aged (38 wk) rats compared with sedentary rats. To examine whether starting exercise at middle-age also affects pain sensitivity, 10 rats, starting at age 21 wk, ran 11 wk for up to 30 min every other day in motorized running wheels. Ten sedentary rats were handled every other day. Tail flick latency (TFL) measured pain perception 5–6 hr post-exercise. A longer latency indicated reduced pain sensitivity. TFL was significantly longer in exercised rats compared to sedentary rats (p=0.0104). After 2 wk, we examined endogenous opioid involvement with the opioid antagonist, naloxone (2 mg/kg, s.c.). Results show that an opioid mediated reduction in pain sensitivity by aerobic exercise in female rats is independent of age at exercise program implementation.

Quiver

Eric Edvalson
Greg duMonthier, Art

My work Quiver is a sculptural piece composed of six small wooden boards. The piece uses both vivid color and natural textures in a minimalist presentation. Incorporating pop art ideas, this piece whimsically hearkens to ‘60s and ‘70s surf/skate culture, creating a sense of nostalgia in the viewer.

Emotional Regulation and Time Perception

Derek Ellis
Jonathan Anderson, Psychology

A total of 182 participants (Mage = 20.34, SD = 4.45) completed this experiment. Participants were assigned to either a retrospective or prospective paradigm and were requested to either suppress their emotions or to experience their natural emotions. Participants watched a 9-minute, 20-second scene from Gorgeous, depicting a martial arts fight scene. After viewing the clip, participants were asked to estimate the films duration in minutes and seconds and complete a brief measure of mood (i.e., PANAS). Individuals who were not informed that they would be required to estimate time (i.e., retrospective paradigm) were more accurate judging time duration than those that were informed that they would have to estimate the film’s duration (i.e., prospective paradigm). However, there was no effect of emotional regulation on time estimation accuracy. That is, individuals that suppressed their emotions provided time estimates that were statistically similar to individuals that experienced natural emotional reactions.
Esperando El Santo: What Happened to El Plan De Santa Barbara
Erika Enciso-Castillo, Ivan Martinez, Jackie Vaughn, Martina Hernandez
Jerry Garcia, Chicano Education

Using performance art as a vehicle to disseminate social commentary developed by such Chicano artists as Chicano Secret Service and Culture Clash, this short video documentary follows a linear trajectory from the early twentieth century to the contemporary period that examines the Chicano experience with the U.S. educational system. The video reenacts experiences of students as they encounter institutional racism, discrimination, white privilege, and long-held prejudicial views of people of color. However, as the documentary will show, Chicano and Latino students do not succumb to their victimization.

Typefaces Have Personalities Too
Amanda Erickson
Molly Johnson, English - Technical Communication

This research poster gives insight into what the perceived personality traits of common typefaces are. Several studies done on typefaces and their personality characteristics resulted with Times New Roman being the most appropriate type for business, while Helvetica and Arial are ideal for advertising because they are sans serif. It is important to know that a typeface is a set of characters, for example Arial, while a font refers to the typeface and size like Arial 10 point.

The Condemnation of Freedom and the Exit Out
Nicholas Ettel
Kevin Decker, Philosophy

Man is condemned to be free. Jean-Paul Sartre’s famous phrase from Being and Nothingness would have us believe that not only are humans possessed of freedom, but that freedom is inescapable, and that at no time are we able to relinquish our freedom, either through force or choice, except through death. But is freedom—or free will—even a tenable idea either philosophically or scientifically? In this presentation I will critically examine Sartre’s key principles and foundations supporting his theory of free will. I will argue that Sartre is a metaphysical libertarian and briefly contrast that with other theories of free will, compatibilism and determinism. I will show that not only does Sartre’s libertarian conception of free will not hold up to reasoned inquiry, but neither can compatibilism. Lastly, I will argue that, in light of current evidence arising from cognitive and neuroscience, free will is actually an illusion, and a deterministic view of human action is the only viable view to hold.
Instrument Design and Modeling Within Audio Programming Environments

K. Michael Fox
Jonathan Middleton, Music

Audio programming environments like Max/MSP, its cousin Pure Data, and others like SuperCollider, have made it possible to create digital instruments of great flexibility and sophistication and require little more than a laptop. These instruments may be based upon tangible, existing instruments or completely new ones that have never been made before. In fulfillment of the course requirements of Music 386: Soundspaces, these resources were used to design an instrument that takes advantage of both of these possibilities. The instrument presented has two different sections that work together. The first section is a human interface and timbral controller that models an Ondes Martenot. The many facets of the instrument that are modeled are employed in order to capture the original analog nature as accurately as possible. The second part of the instrument receives audio output from the Ondes section and applies digital signal processing to it in a structure based upon a neural network.

Post-Vitonian Impressions

K. Michael Fox, Composer
Jonathan Middleton, Music

This piece is an exploration of computer-based composition and computer-human accompaniment. It utilizes an original system designed and created for the computer for interaction with one or more live performers. The system uses a mixture of automation and chance algorithms to control some of its parameters while accompanying the performer. Likewise, the performer plays from a semi-notated score with open parameters for free interpretation and improvisation.

Male-Male, Same-Sex Relationships in Ancient Greek Socio-Military Culture

Heather Frady
Dana Elder, English
Mimi Marinucci, Women’s and Gender Studies

The importance of pederastic relationships in ancient Greek martial life has been underemphasized by many historians. Experts from history and gender studies as well as writings from the Greeks themselves are referenced to illustrate the Greek socio-military culture. After examining the differences between pederasty and pedophilia, terminology and structure are explored. An emphasis is put on the important role that male-male sexual coupling had on the soldiers of ancient Greece. Greek mythology has many stories of male gods taking male human lovers. An abundance of respected martial heroes were involved in close relationships with other men. Greek kings and commanders engaged in pederasty, and some used the practice for military gain. On a more personal level, pederasty was used to harden young Greek men into soldiers. Pederasty was a pervasive and highly important aspect of a hoplite’s life, forming his concept of what it meant to be a man, a Greek, and a soldier. The practice of pederasty should be an emphasized topic when studying Greek military culture.
The Over-Sexualization of Women in Comic Books
Heather Freeman
Paul Lindholdt, English

The comic book medium is becoming more and more popular, thanks to movie and television adoptions, to new generations, and also to academe. With this sort of focus on the comic book world, there is a chance to make a long-deserved change and highlight the problem within its own walls, one dealing with sexism and the way that woman are portrayed in the world of caped crusaders and men in tights. Comics is not only a man's industry but a male-driven genre in which, instead of trying to create strongest female characters to represent the female population, publishers have come to pander to the existing male market and put any hopes of female contribution to the side. In this presentation I hope to outline the problems and show the subjectification and sexualization of women throughout comic books development. I will highlight key time periods, such as the development of the “Bad Girl” art style, that gave us the overdeveloped and hyper-sexual superheroines that we have come to know today.

Is Renaissance Faire? Game Show
Bridget Freeman Wamsley
Barbara Miller, Art

Have we come a long way, baby? Comparing women’s lives during the Renaissance with women’s lives today can be a fun and educational experience! What were women’s roles in society? How were they related to men? How much power did they have over their own existence? Let’s answer these questions together as we play “Is Renaissance Faire?”

Untitled
Anna Fry
Jamie Hahn, Art

This piece is a video of slow-moving still images, merging into a time-based rhythm, both visually and in sound. The sound is a manipulation of a song by Death Cab for Cutie. It was altered by mixing layers, shifting speeds, and adjusting levels of volumes to correlate with the images. The photographs were taken to cause the reader to look at the entire image rather than a typical subject. The pictures are a suggestion of representational forms in a vague abstraction of value and color. I wanted the images to fade in and out as the music changes, to make the viewer consider both the images and the layers of the music.
Caffeine and Time Perception
Trevor Fry
Jonathan Anderson, Psychology

The purpose of our study was to investigate the effect of caffeine on several areas of temporal perception. Participants were randomly assigned to either a caffeine or placebo condition, and those given caffeine received a dosage of 200 milligrams. We measured retrospective and prospective time discrimination in a number of trials. We predicted that participants in the caffeine condition would report more accurate time estimation scores than those in the placebo condition. Data collection continues, but preliminary results suggest a trend toward a significantly lower absolute variance in the caffeine condition for the estimation of 10-second intervals. Participants in the caffeine condition also appear to be demonstrating more accurate retrospective estimations as well. Furthermore, the coefficient of variance exhibits consistency, which supports the theory that the brain utilizes an internal clock. These results could suggest that even a mild stimulant such as caffeine can have a significant impact on our cognitive ability to access and interpret this neurological clock.

Asymmetric Four Point Bending Analysis for the Reduction of Fin Flutter
Tonya Gaddy
Awlad Hossain, Engineering and Design
Martin Weiser, Engineering and Design

The design, construction, launching, and operation of rockets are an important topic in academic interest. One of the hypothesized reasons why a model rocket cannot reach its optimum height nor remain within its projected path is the undesirable oscillations of the fins. This phenomenon called “fin flutter” progresses into a severe issue when the compliant (or flexible) materials are used for fins in rocketry projects. Therefore, the fin flutter issue may be reduced or eliminated by using materials with higher shear modulus and a lower fin index number. Various standard methodologies are available to determine the shear modulus. However, during this research, we are planning to determine shear modulus of compliant materials with unknown properties by the asymmetric four point bending test resulting in a numerical value for its shear modulus. The overall project will facilitate the designer to use the suitable material for rocketry projects with intended performance.

Run Sista’ Run: Black Women in Track & Field 1948-1999
Kyra Gaines
Robert Bartlett, Africana Studies
Christina Torres Garcia, McNair Scholars

Long before Title IX black women athletes proved to the world a passion to compete in track and field. They became some of the fastest women on the planet. This presentation focuses on the lived experiences of the first black women of track and field and the records and social barriers they broke. The purpose of this study was to examine how African American females defied the odds and won on the world’s biggest stage, the Olympic oval. This study is intended to give exposure to some of the challenges that exist at the intersection of gender, race, and sport. This sociological research implements elements of Critical Race Theory and the analysis of primary and secondary sources. The ultimate goal of this research is to fill a gap in the literature by focusing on the individual lives of these six black collegiate/Olympian women athletes.
Lebanese and Anglo-Australian Race Relations in Sydney: A Discourse
Benjamin Gallion
Pui-Yan Lam, Sociology

Fearful anxieties of Arab ethnicities, specifically those of Lebanese descent, have sprouted up in Australian culture over the past several decades, perhaps the most prominent of which stemming from the terrorist attacks on September 11th, 2001. Racism is an endemic issue in Australian history and is still alive today, causing open conflict most notably between people of Lebanese and White Anglo-Australian descent. Data gathering occurred primarily through literature review of race relations in Australia with a focus based on my personal field observations during the period of 7/17/2010 to 8/31/2011 that I spent in Sydney, Australia. My evaluation centered on Australia’s Multiculturalism policy and the Cronulla Riots and subsequent media misrepresentations, which evidenced an “othering” of Arabs in a White social space. I have thus supported claims that racism in Australia is a product of its social history rather than from an innate trait of any ethnicity.

Adaptive Narrations: The Conversion of Classic Literature to Graphic Novel
Morgan Garratt
Paul Lindholdt, English

Graphic novels are a growing form of literature in education society. As with any new form of literature, there is a question of the validity of the medium as part of the literary canon. In this brief overview of graphic novels, I present an argument for their acceptance as an evolving form of literature. I focus on adaptations of classic literary works such as Beowulf, Shakespeare, and Washington Irving.

Nematodes with Low Fitness Are Less Responsive to Environmental Stress
Veniel Garza, Jacob Andrew, Charles Baer
Joanna Joyner-Matos, Biology

We tested whether physiological condition of nematode worms (Caenorhabditis elegans) correlates with fitness. Worms were classified as unmutated ancestral control (AC), low fitness (few mutations), or high fitness (many mutations). We exposed worms to free radical (‘on paraquat’) or hyperosmotic (‘on salt’) stress or to control conditions (‘on NGM’) for four days and estimated worm motility and body size. Low fitness worms were the smallest (p<0.001); high fitness worms were larger than AC worms (p=0.015). Worm sizes increased over time, less so on paraquat than on salt or on NGM. Worm motility on salt and NGM was similar and did not change over time. Worms on paraquat were the most motile (p<0.042); worm motility on paraquat decreased over time (p=0.07). Low fitness worms were less motile than high fitness or AC worms on paraquat and on salt. These results indicate that fitness correlates with condition when environmental stress is present.
Ecohydrology of Reed Canary Grass (*Phalaris arundinacea*)

Adam Gebauer  
*Rebecca Brown, Biology*

In the western United States, many riparian zones are shifting to invasive grass dominated ecosystems that may reduce stream flow. Compared to woody species, dense grass stands may have similar or higher evapotranspiration rates (ET), yet may access shallower water, thus altering stream flow. Many eastern Washington streams experience low flow during the growing season and have extensive stands of reed canary grass (*Phalaris arundinacea*), an aggressive invader. My goal is to determine *P. arundinacea’s* effect on stream hydrology. I determined community composition and flow regime at nine sites in four watersheds. I used stable isotopes in plant water, groundwater, and stream water to determine water source of riparian plants. ET were compared through the growing season and across geomorphic surfaces. When averaged over 1m² plots, the ET of *P. arundinacea* were higher than other species (*P. arundinacea* 59.55, snowberry - *Symphoricarpos albus* 1.79, rose, - *Rosa woodsii* 4.26, wheat grass - *Elymus repens* 18.36 g H2O/m²/hr).

Caught in a Storm

Michael Gerety, Composer  
Michael Gerety, Alek Gayton, Colin Menning, Jordan Gilman, Davis Hill, Performers  
Jonathan Middleton, Music  
Don Goodwin, Music

*Caught in a Storm* is a jazz work written in February 2012. Much of the content is inspired by and draws from the ideas of Seattle-based guitarist/composer Bill Frisell.

Long Play

Michael Gerety, Composer  
James Olsen, Filmmaker  
Jonathan Middleton, Music  
Sarah Lee Monroe, Film

A young, absent-minded record store employee is warned by his boss not to use an old record player. When left alone, though, he discovers that it has magical powers and is capable of releasing the musicians from the records that he plays on it. However, after the machine lets the musician out, all other recordings by that person cease to work. To avoid a musical crisis, he must go out, find the musicians, and put them back in their records, all without letting his boss know. There is a combination of both diegetic music and original score in this film, and they work together to create the comical and exciting scenario portrayed. Multiple post-production techniques are used to help combine the two types of sound into one fluid score. Films give us the chance to answer the what-if questions in life. The hope is that the audience can, for a few minutes, escape to a world where anything is possible and that even a story as preposterous as this one will still entertain them.
Small Molecule Library Targeting Two Systems for the Treatment of Nicotine Addiction: The $\alpha_7$ Nicotinic Acetylcholine Receptor and Cytochrome P-450 2A6

Stacie Ginkins
Travis Denton, Chemistry and Biochemistry

In an attempt to create a small molecule to aid in the cessation of the use of nicotine, efforts are underway to synthesize compounds designed to target two systems: the $\alpha_7$ nicotinic acetylcholine receptor (nAChR) and Cytochrome P-450 2A6 (CYP2A6). By binding to nAChRs, nicotine increases levels of several neurotransmitters in the reward circuit of the brain, adding to the addictive nature of the drug. CYP2A6 is the primary enzyme responsible for the metabolism of nicotine and the bioactivation of several procarcinogens found in tobacco. For these reasons, partial agonism of nicotinic receptors in conjunction with inhibition of CYP2A6 is predicted to be an innovative strategy for the treatment of nicotine addiction. It has been shown that a pharmacophore composed of a pyridine ring linked to a basic amine via spatial structures of various length provide selective ligands for the target receptor and enzyme. Based on this known pharmacophore, a synthetic strategy to create a diverse library of potential ligands has been developed.

Health and Self-Perception

Juline Girts
Theresa Martin, Psychology

This study investigates the relationship between self-image, eating habits and exercise habits. Specifically, we hypothesized that persons who have positive self-image have higher awareness of their health and are also more inclined to exercise regularly and eat healthily. Initial data gathered during Spring 2012 term will be reviewed.

Slinky-Vibes

Joel Gorman
Jonathan Middleton, Music

Slinky-Vibes is a new instrument I created from the Soundspaces instrument design class. A sawtooth oscillator will be controlled by a midi keyboard (Akai MPK 49). The keyboard’s faders will control the cut-off frequency and resonance of a low-pass filter. The oscillator’s signal will be sent into a half-watt amplifier and then sent through a low to high impedance transformer. The high impedance transformer will send the signal to a piezo driver that will resonate a spring coil (Slinky). A contact mic will pick up the spring coil’s vibrations and amplify them through a powered speaker.

Algorithmic Composition

Brendan Graham, David Grimes, Ben Adams, Joshua Metcalf, Greg Hayward
Jonathan Middleton, Music
Steve Simmons, Computer Science

Our program creates Musical Instrument Digital Interface (MIDI) compositions from various mathematical or user defined data sets. Numerical values derived from the input data are compressed into range using a variety of techniques and then adapted to a musical scale to generate a final score.
Evolution of Virulence Following a Host Shift in the *Drosophila* Model

Amy Gray
*Luis Matos, Biology*

Understanding the evolution of virulence following host shifts is necessary for preventing and managing zoonoses. Our knowledge of host shift genetics comes from serial passage experiments (SPE) in single-celled hosts. We developed *Drosophila* species and the sigma rhabdovirus as a model system for the evolution of host shifts. Thus we have a complex multicellular host in which to test some of the tenets developed in SPEs. Here we test the hypothesis that a host-shifted pathogen will be more virulent to the novel multicellular host. An artificial host shift was induced. Infection rate (proxy for transmission) and host fitness (proxy for virulence) were measured in the native and novel hosts. Initial infection was higher, and the virus was more virulent on the novel host. This supports our hypotheses and confirms SPE results as they relate to the evolution of virulence; namely, that a pathogen will be more virulent to a novel host.

Subjugated Knowledge and the Journey of the Outsider Within: An Indian Women’s Resistance

Kali Green
*Mimi Marinucci, Women’s and Gender Studies*

In this presentation, I examine the grassroots resistance efforts of Indian Women against Multinational Corporations through the lens of core social science theorists and philosophers, Michel Foucault, Dorothy Smith, and Patricia Hill Collins. I use aspects of Foucault’s concepts of subjugated knowledge, genealogy and archeology, Smith’s standpoint theory, and Collins’ black feminist standpoint, specifically her concept of the “outsider within.” Through their analyses, Foucault, Smith, and Collins interrogate power and its relationship to knowledge, addressing issues of hegemony, subjugation, and privilege. I also conclude that advances in technology and social media have risen to meet grassroots resistance in ways that give resistors a unique and revolutionary advantage.

Perceptions of Exercise, Health, and Quality of Life in Patients with Poor Functional Outcomes During the First Year After Coronary Artery Bypass Surgery

Allison Greenberg
*Tanya LaPier, Physical Therapy*

This study explored factors that influence patient adherence to exercise, feelings about health and quality of life (QoL), and perceived activity limitations in patients with poor functional outcomes in the first year after coronary artery bypass (CAB) surgery. Four subjects were interviewed by phone regarding their feelings about exercise, health and QoL, and perceived activity limitations at 3, 6, and 12 months post surgery. The study identified reduced energy level, exacerbation of symptoms (pain, shortness of breath, fatigue), and fear of harm as the most frequently reported barriers to exercise. Physician encouragement and improving physical health were identified as factors promoting exercise adherence. Discouragement and concern about health were identified as important perceptions of health and QoL. This research study was conducted by Kimberly Cleary, PT, PhD; Allison Greenberg, sDPT; Diane McKenney, sDPT; and Tanya LaPier, PT, PhD, CCS.
The Design and Manufacturing Process of a Paper Bike in the HPPV Competition
CJ Grijalva, Saleh Tafesh, Ranzel Negrillo
Awlad Hossain, Engineering and Design
Martin Weiser, Engineering and Design

The objective of the Human Powered Paper Vehicle (HPPV) event is to provide an opportunity for engineering students to demonstrate the application of engineering design toward the development of a practical human-powered vehicle out of 90% paper by weight. This year’s competition presented new challenges by introducing density constraints for our paper material. The functional requirements are that the vehicle must accommodate steering, braking, the capability of maneuvering mild obstacles, including cones and a ramp bridge. The ability to develop excellence in teamwork and communication to make this paper vehicle with satisfying all constraints was accomplished. Our presentation will cover the brainstorming in design and manufacturing of bike components.

New Criticism Explication of the Double-Entendre Poems in the Exeter Book Riddles
Christopher Grim
Logan Greene, English

These earthly, sometimes obscene poems of the Exeter Book separate themselves from the rest of medieval poetry due mainly to their provocative nature. For over a century scholars have attempted to explicate answers of the riddles based on different forms of proper critical methodologies. These methodologies range from the four level interpretation, to Freudian psychoanalysis, to historicism, and the very prudent philological, but answers remain disputed. By focusing on the language and structure of the six double-entendre riddle-poems of the Exeter Book riddles, a reader can attempt a reading based on the theory that a New Criticism approach leads the reader to naturally come to the double-entendre but first must acknowledge the several issues when determining the meaning behind these fascinating riddles and to detach perspectives irrelevant to the explication.

Solar Cooking—Utilizing the Sun
Stacia Gross, Laci Sweetland, Samantha Holtsclaw, Mark Huyler, Patricia Atrill
Rodger Hauge, Education

As our society focuses more on “going green” and trying to harness power from the sun and wind, some old technology has been updated to bring into the new era. Solar cookers are a great way to harness the sun’s energy into a practical use. Information will be shared on solar cooker design and how it functions. Data will be presented on angles of the sun and its effect on cooking time and temperature.
Teaching with Technology Portfolio: Web 2.0 Tools
Nolan Gruver
Kevin Pyatt, Education

The purpose of this portfolio is to introduce readers to the benefits of Web 2.0 tools, technology, and examples of use that meet ISTE national educational standards according to the Teaching with Technology Certificate Program. Utilization of Web 2.0 tools can provide teachers and business professionals a new approach to engage learning, instruction, advertisement, and organizational communication in modern corporate and educational environments. Examples given of the practical application of Web 2.0 tools in this portfolio will include the use of a Wikispace learning platform that incorporates aggregators, Camstudio instructional videos, PDFs, Survey Monkey, links to educational blogs, YouTube, and many other online active learning tools. Additionally, an example of a digital university department newsletter will be given showing the utilization of Microsoft Office Publisher 2007 and Web Content Management Software for self-advertising work and creating online WebPages for organizational purposes.

Chance
Courtney Hammond
Garric Simonsen, Art

The three prints explore the nature of chance. This project was an explorative experience for me since I usually think and plan out how I want my finished result to look. The process began with the placement of the color on the plate, followed by the placement of the ripped strips of paper and/or water. The true play on chance came when I put the plate through the rolling press; I couldn’t see the finished result until I lifted the print off the plate.

Nietzsche and Wagner: Through the Lens of Strength
Kylie Hannas
Thomas Hawley, Government

Friedrich Nietzsche believed that the “strong” have a very different relationship with their enemies than the “weak.” Instead of hating them, the way he insists the weak do, the strong embrace their enemies because these enemies affirm their own strength. This research will examine Friedrich Nietzsche’s relationship with Richard Wagner both before and after the break. It will focus on the admiration that he had towards Wagner before the break and look at how this relationship changed when Nietzsche ended the friendship. Furthermore, through examination of Nietzsche’s essay, Nietzsche Contra Wagner along with other peer-reviewed articles, it will examine whether or not Nietzsche was, in fact, able to embrace his “enemy” for the sake of this essay, the way he suggests the strong should.
Counterinsurgency Considerations
Michael Hanson
Majid Sharifi, Government

The last decade has found the United States military engaged in counterinsurgency campaigns. Many military experts agree that counterinsurgency is the likely type of operations in the near future rather than interstate warfare. These operations are often long and costly. Before the forces of military power and national prestige are committed, certain considerations must be taken into account. General characteristics and unique circumstances distinguish some situations from others. Key factors that influence the conduct of operations can be: political borders of a state; physical terrain; climate and weather; urban and rural populations; sources of social identification such as religion, ethnicity, and tribalism. The purpose of this paper is to present some general guidelines to be examined before embarking on a counterinsurgency mission. These guidelines will be a rough way of gauging success or failure and whether a counterinsurgency project should be undertaken or not.

Apologies
K. Michael Fox, Composer
Kaylee Hardin, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Apologies is a short drama about letting of grudges in order to figure out what is truly important. The film follows Eric, a young and stubborn man, as he learns this lesson. Eric has an explosive fight with his girlfriend, Angie, in which he gets fed up and drives angrily away. The next day, Eric wrestles with the desire to call her and make up, but his pride prevents him from doing so. Later at the bar, Eric meets a man that helps him realize what he really wants which allows him to make the decision that will seal his fate. The musical score seeks to enhance the emotional content of the film by underlining thematic elements of the narrative.

The Effect Attention Deficits Have on Time Estimation
Theresa Harkness
Jonathan Anderson, Psychology

The main goal of the present experiment was to verify whether those who report attention deficit characteristics also produce time estimates that are overall less accurate compared to controls. “X” neurologically normal young adults (x female; x male) participated in this study. The participants’ age range was x-x (M = X, SD = X). A dual-task procedure was utilized in which participants were asked to read the numbers aloud as they appeared on the computer screen, to decrease the chance of counting and other monitoring strategies. Participants completed a self-report measure of attention deficits and a measure of executive dysfunction. The purpose of these questionnaires was to assess those who report more attention deficit characteristics over those who do not report such characteristics.
The Lactation of Saint Bernard in Art and Literature: “Show Thyself a Mother”
Courtney Harler
Logan Greene, English

Known for devotion to the Virgin Mary, Saint Bernard of Clairvaux became the subject of a body of medieval legends collectively called the Lactation of Saint Bernard. In many versions, Bernard is visited by Mary in a dream; she places her breast milk in his mouth, giving spiritual sustenance. Other versions depict Bernard praying to a statue of Mary and witnessing the statue quicken; she expresses breast milk into his eye, curing him of a chronic infection. These legends spread by word of mouth in medieval times and even continue to circulate on the internet today. However, the exact source of these legends is difficult to discern. Some scholars argue that the legends first appeared in the iconography of the twelfth and thirteenth centuries, as opposed to text. Yet, other scholars intently trace the earliest literary origins of the legends. My study will first address these dual origins and then focus on the legends themselves within the context of the medieval conception of lactation.

Correlating Pathogen Genetics with Virulence and Transmission
Deborah Harris
Luis Matos, Biology

We are using Drosophila species and the sigma rhabdovirus as a model system in which to study pathogen evolution following host shifts. We induced a host shift and maintained the virus in the novel host for 17 host generations. Paired lines were produced in the native host for comparison. Multiple virus lines were produced with differing virulence and transmission levels in native and novel hosts. We hypothesize that these among line differences will correspond to polymorphisms in the genomes of the respective virus lines. We use reverse transcription, the polymerase chain reaction, cloning and Sanger sequencing to obtain the genetic code for each virus line. Sequence analysis will determine whether correlations can be made between the virus genomics and its phenotype. Understanding changes in pathogen genomics immediately following a host shift is a key first step in understanding why some pathogens produce zoonoses while others do not.

Creative Nonfiction
Rachel Hartley-Smith
Natalie Kusz, English - Creative Writing

A sampled reading from an upcoming creative thesis of memoir and poetic narrative seeking to make revelations regarding the development of one girl’s personal identity, in youth and near-to forty years later, as the unspoken rules of gender and class have existed in the writer’s hometown of Southern Indiana and also in the writer’s mind, as ever-present culture captured by stories.
Correlating Neurologic Function to School Performance in Students at RiverCity Leadership Academy
Andrew Hay, Doug Gulbranson
Donna Mann, Occupational Therapy

Performance of students at RiverCity Leadership Academy can be attributed to many factors. The goal of this study was to assess and evaluate student school performance using quantitative assessments. The Quick Neurological Screen Test 3 (QNST-3) assesses neurologic functioning, and Adult/Adolescent Sensory Profile (ASP) assesses how people perceive and interact within certain environments. The constructs and criterion of each assessment have connections to academic performance. QNST-3 results identified statistically significant correlations between certain tasks and GPA, and moderate correlations of total scores and GPA.

Untitled #27
Robert Heagy
Greg duMonthier, Art

My work explores the confines of aesthetics. Popular opinion views art as a singular piece of work to be seen in its own right, typically on a pedestal or wall with space to be viewed by itself. This piece is a reaction against popular opinion. When multiple works are displayed together, juxtaposition and relational aesthetic work to create a new piece that would otherwise not have been possible when viewed individually. The combination of found and purchased materials explores the relation between consumerism and waste.

Fight Club and Zen Philosophy
Hannah Heilman
Christopher Kirby, Philosophy

This will be a presentation on the similarities between Chuck Palahniuk’s novel Fight Club and Zen philosophy. It will examine the violent content of Fight Club and then relate the motivation for said violence to the tenants of Zen philosophy, reaching the conclusion that Fight Club has been so successful in the cult industry because it exposes Western people to Eastern thought in a way that they can relate to.

Instruction in Proper Lifting Technique: Squat v. Stoop Lifting
Sam Herman
Dan Anton, Physical Therapy

In view of the high costs associated with low back pain (LBP) and the high recurrence rate, training in lifting technique is becoming widely integrated in primary and secondary prevention of LBP. Though intervention studies have failed to demonstrate convincing effects of training and instruction with respect to lifting technique on musculoskeletal health, specific techniques, such as the so-called squat technique, have been advocated to reduce the load on the back. The purpose of this research review is to evaluate the evidence that proper lifting technique is useful for reducing risk of LBP, with an in-depth analysis of the squat lift compared to the stoop lift.
Gender Differences and Sensation Seeking Personality Traits Relationship with Spatial Ability and Spatial Anxiety
Sthefanie Hernandez
Theresa Martin, Psychology

Do adventurous people have better sense of direction than unadventurous individuals? To answer this question 119 introductory psychology students (89 women and 30 males) completed four self-report questionnaires about sense of direction, spatial strategy, spatial anxiety and the Sensation Seeking Scale form V (SSS-V) (Zuckerman, 1978). Accordingly to participants’ sensation seeking total score, they were classified in two groups—high sensation seekers (62 participants) and low sensation seekers (57 participants). No significant results showed Sensation Seeking total scores do not correlate with sense of direction, spatial anxiety or preferred way finding strategy.

Service in Action: Great Shape! Inc., the Bob Marley Foundation, and English 407
Jill Herrera
Molly Johnson, English - Technical Communication

This past winter my English 407 proposal writing class partnered with community organizations for a service learning project. My team wrote a grant on behalf of a local non-profit organization, Great Shape! Inc., to the Bob Marley Foundation. This project provided a real-world scenario to work with, including real deadlines and responsibilities. It also offered the experience of making connections within the local non-profit world and, in this grant’s case, the global foundation community. This project is a clear example of how service learning can bridge the gap between learning a skill in the classroom and creating real-world results. My plan is to create a poster to visually share this experience of service in action. I will design a poster that links service learning to non-profit organizations and foundations, highlighting how service learning is a benefit to both students and our community.

Atacama Dreams: My Year as a Fulbright Scholar in Northern Chile
Summer Hess
Natalie Kusz, English - Creative Writing

The Fulbright U.S. Student Grant is the largest U.S. international exchange program, supporting approximately 1,700 U.S. citizens to engage in study, research, or teaching assistantships abroad. Summer Hess, a graduate student in Eastern’s Creative Writing Program, received a Fulbright Grant in 2011. She lived in the Atacama Desert in northern Chile, the most arid place on the planet, and researched the history of travel and development. She will talk briefly about her experience as a grantee and share an excerpt from her graduate thesis, which she will defend this spring.
Collegiate Football Player Following Bicipital Tenodesis
Jodee Hickman, Whitney Champlin, Tara McLaughlin
Jeffrey Kawaguchi, Physical Education, Health and Recreation

The uniqueness of this case study is the procedure of bicipital tenodesis performed on a 22-yr-old male football athlete. Bicipital tenodesis is a surgical procedure that uses a double anchor suture to bone with soft tissue repair of the biceps tendon. This case study provides an in-depth look at characteristics of a subluxed bicep tendon and how one unique surgery helped an athlete make his way to NFL tryouts.

Interpreting the Message: Portrayals of Victims in Ciudad Juarez Femicide
Angelica Hill
Martín Meráz García, Chicano Education

The close proximity of the Ciudad Juarez femicide merits further investigation into how victims are presented in state and nationally circulating newspapers. A content analysis of four newspapers’ coverage of the femicide indicates that the victims are presented in stereotypically gendered roles and associated with prostitution, drugs and promiscuity. This framing was present in newspaper articles written between 1993 and 2002. Around 2002 the four newspapers began to describe the victims somewhat differently. This humanizing community frame was articulated through quotes and paraphrases attributed to family members or activists who had known the victims prior to death. Quantitative data was utilized to confirm that the official and community frames were found in conjunction in many of the articles, offering a contested portrayal of the victims. My research problematizes the way gender figures into women’s presentations as victims and discusses how journalists can avoid this misrepresentation.

Don’t Be Late
Davis Hill, Composer
Ben Johnson, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

This movie can only really be described as a comedy about a scatter-brained goofball whose weakness becomes a strength, for a brief moment, and allows him to finally take an effective action to save his family. The protagonist isn’t particularly heroic; in fact, he’s sloppy and forgetful, often locking himself out of his car and house, and he’s always late. Most of the time he does nothing but screw up, and in the end only saves himself by being late to the rendezvous. The music will aim to better illuminate the protagonist’s struggle while providing an emotional backdrop for the film.
Original Electroacoustic/Software Instrument: Agrippa

Davis Hill
Jonathan Middleton, Music

The electroacoustic instrument Agrippa was designed as part of the Soundspaces instrument design class. Comprised of both physical and software components, it can also utilize its output device as an input. Agrippa collects audio from two contact microphones, one of which is attached to a percussion brush. This audio is processed in Repeater 0.9, a program designed with Max/MSP, before being outputted. Processing consists of two distinct repeat operations applied to the (single) audio signal. Each operation has customizable parameters and functions independently. The customizable repetition parameters and use of simple physical inputs allow Agrippa to create many types of sounds: complex polyrhythms, wind- or ocean-like washes, analog distortion, supercharged harmonics, or ghostly whispers, to name but a few. Agrippa is infinitely variable; any input source is viable. Agrippa’s power lies in its ability to amplify and isolate sounds that are otherwise inaudible. In this way, everyday objects such as nail files, binder combs, or brushes can become fascinating sonic playgrounds.

Sundance

Davis Hill, Composer
Jonathan Middleton, Music

Jonathan Middleton, Music
Sundance combines elements of electronic music, acid jazz, minimalism, and club music. It also includes the original electroacoustic instrument Agrippa (which will be on display during the interactive session of the Symposium).

3D Campus Tour

Nick Hillstrom, Nick Lefave
Brian Kamp, Computer Science

Featuring an “in the making of” virtual EWU campus tour. Using the Unreal Development Kit (UDK) one will be able to take a 3D tour in the form of a video game. Breaking down the process of how the engine works, level creation and working with large and small development teams, and of course all the problems that will occur. Initial intent of the 3D Campus Tour: alternative way to give tours and perhaps allow out-of-state incoming students to view the EWU campus.
Color Preferences of the Brook Stickleback
Andrew Hodgson
Ross Black, Biology

Animal visual systems should be most sensitive to the color of their most profitable prey. This sensitivity may sometimes be exploited in a sexual context. We see evidence that sensitivity to prey color is being exploited by potential mates when the breeding colors of mates are the same as the prey color preferences of their potential suitors. For instance in threespine stickleback, females choose to mate with males with the most intense red coloration, and choose to consume red prey over prey of other colors. My results show a strong preference for red prey in brook stickleback from Turnbull National Wildlife Refuge. The Turnbull brook stickleback appear to be unusual in that half the males express red breeding coloration in their pelvic spines. The use of red coloration to attract mates, which was lost in brook stickleback ancestry, has reappeared in these fish. While the trait was lost, the female preference for males with red breeding colors may have persisted as a side effect of sensitivity to red prey.

Tohoku Tsunami Victims One Year After: Feeling Forgotten, But Appreciative
Reika Horio
LaVona Reeves, English

This presentation is a summary of the current situation in Tohoku. For tsunami victims, life is different from a year ago when there was an urgent need for food, water, clothing, shelter, and rescue of loved ones. Now, however, they need safe places to share their feelings, and their needs there are changing. Second, the reaction of the media is going to change now. After the earthquake, the media stepped into the lives of people in Tohoku rudely and didn’t care how sad victims were in order to report the news. However, the media coverage is decreasing now, and people in Tohoku have fear that they may be forgotten. The devastation of the earthquake and tsunami remain all around the survivors. The disaster is not over yet, but they want to express gratitude for how the world has helped Japan.

Effects of Human ITPase G150F Mutant on Substrate Binding Cooperativity
Ryan Horton
Nicholas Burgis, Chemistry and Biochemistry

Human inosine triphosphatase (ITPase) is an enzyme that helps to purge our system of damaging mutagenic nucleotides. It is essential for life in mammals and vital for proper heart development. Recent research has shown that ITPase interacts cooperatively with the ribonucleotide form of its substrate, but not the deoxyribonucleotide form. This may be explained by differential interactions of the enzyme binding site with the 2’ position of the substrate. The deoxy-form has two hydrogens at this carbon, while the oxy-form has a hydroxyl group and a hydrogen. To test this hypothesis we constructed a G150F mutant of ITPase, where a very small glycine residue, located in the binding site of the enzyme in close proximity to the 2’ position of the substrate, was replaced with a large and aromatic phenylalanine residue. At this position, the phenylalanine residue might interact with the 2’ hydroxyl group on the oxy-form of the substrate, and may affect cooperativity.
Tang Dynasty Poetry in the Golden Age
Yifan Hou
LaVona Reeves, English

The Tang Period (618-907) was a golden age of Chinese literature because thousands and thousands of poems were written during that era. Sun Zhu compiled his own collection of poems to teach character lessons to Chinese children who memorize them as they are learning to read and write in Chinese. This presentation examines the common styles, length, and subjects of this period by analyzing poems of Li Bai, Du Fu and others.

Smoking Cessation: Saving Lives One CYP2A6 at a Time
Ashley Hughes
Travis Denton, Chemistry and Biochemistry

Cigarette smoking has become one of the largest causes of preventable death in the world. People who smoke have increased rates of lung cancer, emphysema and stroke as compared to non-smokers. The majority of nicotine in cigarettes is metabolized into cotinine by the hepatic enzyme cytochrome P450 2A6 (CYP2A6). Variations in CYP2A6 genes have been associated with slower rates of nicotine metabolism and people with these variations are less likely to become addicted to nicotine. A goal of our research group is to synthesize a library of CYP2A6 inhibitors to artificially mimic the effects of nicotine slow metabolizers, to be used as potential smoking cessation aides. The chemical architecture of the target molecules predicted to have the highest binding potential contains a pyridine ring, substituted at the 3 position by a linking moiety to a basic nitrogen atom. The chemical approach and results of these experiments will be discussed.

Monsters, Margins, Deformity and the Self
Eric Iliff
Paul Lindholdt, English

In both Beowulf and Sir Gawain and the Green Knight, heroes fight against foes that are different from themselves. These antagonists live on the margins of society, unable to enter the public sphere. Their bodies are deformed; they are considered “monsters,” manifestations of the “other” things that give the heroes a sense of identity through their differences. I will examine the idea of the “margin” both from a geographical standpoint and from the monster’s inability to enter the public sphere. I will then examine the idea of the “monster” itself, the physical defects that are associated with it, and what it meant to be classified as such in the medieval age. Finally, I will examine the psychological aspect of the idea of “monstrosity” and conclude with the assertion that there is a fine line between hero and monster—while Sir Gawain escapes from becoming the monster he fights against, Beowulf does not. The monster mirrors the hero, and the “other” is not so far away from the self as Gawain and Beowulf would like to think.
SNP Analysis of Baseline Allele Frequency of Cytochrome b and ATP 6 Within Ancient *Bison bison*

Candice Ireland, Nicole Ecklund, Joey Bell
Institute of Science and Technology at North Central High School
Randy James, Biology
Steve Fisk, Anthropology

Between the nineteenth and twentieth centuries, the *Bison bison* population experienced an extreme bottleneck, which resulted in a near-extinction because of factors including over hunting. Through government support and private conservation efforts including intentional interbreeding with cattle, the bison population was returned to sustainable numbers. The severe bottleneck and introgression with cattle brings the Bisons’ genetic diversity and purity into question. The expected genetic impacts of a population expanding out from a severe bottleneck include high frequencies of maladaptive alleles that were originally rare in the founding populations. We are looking at baseline allele frequencies using DNA sequencing of two mitochondrial genes, Cytochrome b and ATP 6, within ancient Bison populations that precede the introduction of cattle to North America and the 19th century bottleneck of *Bison bison*. (We have genetic sequence from a rare *Bison bison* sample from Vantage, Washington. 6,200 RCD).

20-Year-Old Female Soccer Player with Torn ACL

Megan Jeffris, Whitney Kath, Jared Blane, Leslie Martin, Heather Sevier
Garth Babcock, Physical Education, Health and Recreation

The anterior cruciate ligament (ACL) is a structure that inhibits excessive anterior translation of the tibia on the femur when jumping, cutting, running and performing other various sports activities. A common mechanism associated with tearing the ACL occurs when the foot is planted (weight bearing) and the athlete makes a sudden change in direction. This often leads to excessive external rotation of the tibia and internal rotation of the femur causing the knee to buckle inward. This buckling of the knee creates the tension on the ACL, causing the tear. With most athletes, torn ACLs are treated surgically in order to return to their respective sport. This case study outlines the possible surgical interventions (their pros and cons) as well as the treatment and rehabilitation protocols for return to play.

What Was Your Name Again?: Are Muslims Treated Differently When Seeking Housing?

Matthew Johansen, Ty Finkas
Amani El-Alayli, Psychology

Civil rights violations against Muslims in the U.S. have increased since the Oklahoma City bombing of 1996, reaching thousands per year. Of the 167 reported hate crimes in US in 2006, only 33 of them were related to housing discrimination. We examined the possibility that housing discrimination was occurring in very subtle ways. It was predicted that potential Muslim renters would receive less encouraging information (e.g., volunteering less information and being less friendly) from sampled rental agents. Property managers were called in Spokane, WA and Boise, ID by males and females assuming either a Muslim sounding name or Christian sounding name. The agents provided less encouraging information towards Muslim males but more encouraging towards Muslim females. This research can be used to emphasize the importance of examining subtle forms of discrimination rather than just blatant forms.
Corners
Chandler Johnson, Composer
PJ Hanson, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Corners is about a lonely high school student, named Ryan, who is tormented by a gang of bullies. Ryan accidentally bumps into one of the bullies and bolts thinking he may have instigated a reason for the bullies to actually hurt him. Ryan is then followed into his next class by Tony, one of the bullies, and flees after receiving a message he presumes as threatening. The music in this film would require some strategic pin-points, but it will mostly contain low stringed instruments for the rather fast and action-like parts, and one nice resolve at the end.

Juvenile Recidivism
Lakeisha Jones
Kerryn Bell, Criminal Justice

“Train up a child in the way that he should go and when he is old he will not depart from it.” Proverbs 22:6. The meaning of this Proverb is the lessons that are implemented in young peoples’ environments are engraved in their conscious as truth and are the specific instructors for their entire lives. It is difficult to reverse horrible upbringings, but it is not impossible. The question becomes what are the youth being taught and being exposed to? The topic of my research is Juvenile Recidivism, which is the rates at which adolescents are offending and re-offending. The news shows constant coverage where there is a crime committed by or against the youth. Through this research I sought to figure out: What causes juveniles to commit crimes? How has the change in technology and media (the New Problem) influenced the minds of the youth? I coined the term Foundational Pyramid which is (Family, Community, and School) because this represents the young person’s atmosphere. The results of my research were very provocative. It intensifies my relentless pursuit to help young people succeed.

A 10-Week Mental Fitness Skills Training Program to Enhance Psychological Resilience and Academic Achievement Among First Generation College Students
Caitlyn Jordan
Jon Hammermeister, Physical Education, Health and Recreation
Lawrence Briggs, Enrollment Services

Previous research on First Generation College Students (FGCS) indicates that they experience considerable adversity both prior to and during their college experience, which make them vulnerable to a variety of adverse outcomes (Bui, 2002; Terenzini, et al., 1996). Mental fitness skills (MFS) such as self-confidence, emotion control, goal setting, and imagery may be useful and trainable concepts, which could potentially be of use to this at-risk group. A cohort of 21 freshmen FGCS was presented MFS material designed to help them mentally prepare for the hardships of college life. After 10 weeks of training, it was found that this cohort had higher self-report resilience, self-esteem, confidence and commitment than demographically matched controls.
The Role of an Occupational Therapy Level II Fieldwork Student Within Spokane Mental Health Services’ Program for Assertive Community Treatment (PACT)
Allie Jost, Darwin Bell, Ian Boyle, Janelle Wilkinson, Diane Levad
Diane Norell, Occupational Therapy

PACT is a multidisciplinary mental health treatment approach. PACT aims to increase independence in the community by improving quality of life and support of social, rehabilitative, and employment goals. Occupational therapists (OT) provide psychosocial, vocational, and rehabilitative services. OTs have not provided services in a Washington PACT team, however, OT was founded in mental health. This study explored the role of an OT student intern in PACT. The study demonstrated the valuable perspectives and skills an OT student brought to the PACT team and consumers.

The Effects of Discrimination on Trait Reactance: A Study from the Thesis of Nathaniel S. Wareham
Chelsea Joynes
Amani El-Alayli, Psychology

Psychological reactance is when somebody feels the need to push against limits that are set on him or her simply to prove to themselves (or others) that they have the power of free will. In the event that people are denied certain things they feel entitled to, they may experience psychological reactance. Trait reactance is when this develops into a personality type. The present study states that when people are continuously exposed to discrimination over the course of their lives, they are more likely to develop trait reactance. College student participants completed self-report measures of how often they get discriminated against and of trait reactance. The results revealed some positive correlations between discrimination frequency and trait reactance. This could be an important finding that may help better understand the “guarded” therapy client and what may be causing their psychological reactance.

An 18-Year-Old Male Collegiate Track and Field Decathlete with a Double Achilles Tendon Rupture
Melani Kelly, Sayaka Yasui, Virginia Roth
Garth Babcock, Physical Education, Health and Recreation

Achilles tendon ruptures occur most commonly from sudden forced plantar flexion of the foot, unexpected dorsiflexion of the foot or violent dorsiflexion of a plantarflexed foot. In the present study, the athlete was an 18-year-old male track and field decathlete in a Division I athletic program. The original injury was sustained during his approach to the high jump in a meet last winter. What makes the case unique is that the athlete sustained a second complete tear to the Achilles less than six months after the first was repaired. The two surgical interventions are discussed along with post-operation treatment, rehabilitation and clinical outcome.
Anna Rosmus and the Memorial Culture of Passau
Jaimie Kenney
Jody Stewart-Strobelt, Modern Languages, Literature and Philosophy

Anna Rosmus, from Passau, Germany, entered an essay contest after graduating from high school that has changed the way history of the Third Reich is taught in Germany. The topic of the essay contest, “My Hometown before the War,” proved more difficult to research than expected, and in the process she uncovered some dark secrets the city of Passau did not want to come to light. Rosmus soon learned it was not only her city that skipped over the Nazi years in history class, but most of Germany, and since winning third prize with her essay in 1980, she has devoted her life to researching the single actions of ordinary people—not dictators or army generals—that contributed to the atmosphere of fear that made the Holocaust possible. As Rosmus observes, “It is only the followed orders that make dictators into that which they are.” Passau now has memorials for the victims of National Socialism that suffered there, and Germany is devoted to remembering the past. Rosmus’ message that every human being has the responsibility to fight for what is right is as relevant as ever.

Discovery that Bioterrorism Pathogen Agent *Rickettsia prowazekii* Lacks Key Enzymes in the Non-Canonical Purine Repair Pathway
James Kim
Nicholas Burgis, Chemistry and Biochemistry

Highly conserved proteins are often required for basic cellular function, stability, and reproduction. Conservation of protein function sequences is indicated by the presence of functionally similar or identical amino acid residues across species. Key enzymes in the non-canonical purine (NCP) repair pathway are some of the most highly conserved in evolution from bacteria to humans. These enzymes are important in clearing mutagenic base analogues from the cellular nucleotide pools and insuring accurate genetic transcription and replication. Preliminary analysis of potential bioterrorism agents suggests *Rickettsia prowazekii* (RP) lacks key enzymes of the non-canonical repair pathway. Our results indicate RP may have elevated sensitivity to NCP, relative to humans. Determining the feasibility of using NCPs as a therapy to combat RP and other Rickettsial diseases like Rocky Mountain spotted fever awaits experimentation.

Finite Element Analysis of Railroad Components
Shaun Kimm
Awlad Hossain, Engineering and Design

For many years, most heavy freight trains in the United States have used a very similarly designed rail system composed of the same parts and made of the same material. However, railroad ties made of materials other than solid wood are slowly becoming more popular. The ability to manufacture a tie with the necessary material properties for a given application has significantly contributed to the increased production of railroad ties made of concrete and plastic composites. The goal of this project was to compare wood, concrete, and composite ties under static, dynamic, and thermal loads using ANSYS Finite Element Analysis (FEA) software. As the rail system was analyzed, the response to the various loaded components gave insight to the specific materials and material properties that are desirable for freight rails. The ANSYS analysis presented numerical data along with animated figures of the loaded components to assist in the proper material selection.
Inland Northwest Land Trust Grant of 2011
Mary Klements
Molly Johnson, English - Technical Communication

The Technical Communication program at Eastern Washington University encourages service-learning projects as a hands-on approach to designing effective documentation. The English 407 Grant Writing course provided students with an opportunity to assist a 501c3 non-profit organization in the grant writing process. Communication with the Inland Northwest Land Trust (INLT) revealed their need for a grant to support a project with a budget that exceeded their funds. The INLT wanted to make a video to raise awareness of its work in the community. Our team researched grant foundations, interviewed and regularly met with the INLT staff, and wrote the grant. The grant writing process taught me how to apply technical skills to a project that directly involved the Inland Northwest landowners. I learned how to manage time, meet deadlines, collaborate with and deliver a product to the clients. The purpose of this poster is to describe the grant writing process, the lessons I learned along the way, and the experience I gained which has prepared me a for the career of a future technical writer.

Analytic Statements: A Response to Quine
Christofer Koch
Mimi Marinucci, Philosophy

Willard Van Orman Quine’s classic work “The Two Dogmas of Empiricism” contains within it a critique of the possibility of analytic statements. Analytic statements being those that are true by the meanings of the words involved, Quine questions whether there can be any statements that are true by these standards. His argument is based on the notion that in all such statements the terms involved must be synonymous to one another, which he finds to be wrong. This is a mistaken view about the relationship between terms in analytic propositions. Instead of being synonymous, they contain a relationship of being concept terms of which one contains the other. Thus, analytic propositions are rendered true by one of the terms being part of the other.

Orthopedic Plates and Bone Screws
Jessica Korgel
Awlad Hossain, Engineering and Design

Orthopedic plates and bone screws are widely used in the medical field to help heal a fractured bone. The material for these orthopedic implants has been strictly evaluated to provide the best results in recovery and future endeavors of the patient. I am familiar with one incident in which both the plate and screw had broken, from which I actually have the particular hardware after it was removed to be replaced. The reason for this project was to figure how the doctors placed the hardware within the fractured ankle that might have caused the breakage. To do this, 3D models were created in SolidWorks and imported into ANSYS Workbench to provide an analysis simulation. The project utilizes structural analysis including fatigue, as well as linear buckling analyses, set in a variety of conditions. The challenge was where to apply the boundary conditions, as well as what direct forces should be applied. This project illustrates how the plate and screw might have been broke, as well as if the material’s strength should have withstood the forces or not.
**How to Kill an Alias**

Dave Kotlan  
*Tom Mullin, Film*

Four screenwriters find out that all of their ideas for films have been put into production over the past two years. They have decided to catch the thief and make him pay. This is a short film written and directed by senior Dave Kotlan, adapted from the short story "Concealed Art."

**TOAST**

Dave Kotlan, Seth Mead  
*Tom Mullin, Film*

*TOAST* is a half-hour, dark comedy, television show. The idea was to format the show in pace, timing, length, and to stick within the guidelines of a typical half-hour program on channels such as the FX Network, HBO, or Showtime. *TOAST* is the show about vampires...for people who don’t like shows about vampires. Tom, Gary, and Paige have been vampires for many years...and it’s not as sexy of a lifestyle as Hollywood would have us believe. It was jointly written and directed by senior film students, Dave Kotlan & Seth Mead

**Daniel/Saint Daniel**

Dave Kotlan  
*Tom Mullin, Film*

This dark film is a directing experiment of a well-known script in the EWU Film department, written by alumnus Bryce Woodworth. It was directed by senior film student Dave Kotlan. Synopsis: A woman asks a man to prove his love by committing the ultimate sin.

**Rehabilitation of a Patient Following Anterior Cervical Discectomy and Fusion (ACDF): A Case Report**

Anesse Kuehl  
*Patty Nelson, Physical Therapy*

Neck pain affects people across the age spectrum. While age and trauma are contributing factors, research now shows a correlation between posture and neck pain. Poor posture causes weakness of the postural support muscles, the deep neck flexors (DNF); thus affecting a person’s ability to correct their poor habits. This causes increased stress and compression of the neck structures, and can lead to Spondylosis, an adaptive narrowing of the spine, compressing the nerves and causing additional problems. As 66% of people with Spondylosis have poor posture, either conservative, surgical or both treatments are performed. Today, anterior cervical discectomy and fusion (ACDF) is used however; its effectiveness in eliminating neck pain remains less than perfect. This case report describes the rehabilitation of a patient following ACDF and how physical therapy to address poor posture can improve overall function and quality of life.
Anonymous Loops
Jamin Kuhn
Garric Simonsen, Art

This installation explores digital projection, and the physical relationships occurring within tangible, intimate environments. The superficial banality of the footage raises questions regarding the digital world’s worth when combating with that of the physical.

Toxic Elements in Children’s Toys
Michael Landkammer, Ian Leavy
Carmen Nezat, Geology

Toys containing dangerous levels of toxic elements have been a serious problem in recent years. Children are particularly susceptible to the adverse effects of these elements because of their small and developing bodies. This study examined low quality, inexpensive toys collected from retailers and homes in the Spokane area to determine if they contained dangerous levels of potentially toxic elements such as lead, cadmium, arsenic and barium. Most of the toys tested had significant amounts of the elements being tested for but few exceeded the standards put forth by the federal government. Three of the samples exceeded the limit for lead set forth by the Consumer Products Safety Improvement Act of 2008.

Writers’ Center Service Learning Project
Kimberly Lawrence
Molly Johnson, English - Technical Communication

Learning is most beneficial when it can be applied directly to real-world problems. Service learning has created a way to improve the understanding of theories from the classroom to reach educational goals. My symposium submission highlights the final project from the Professional Documentation course I completed in winter 2012. The objective was to create a new brand and PR materials for the university’s Writers’ Center. This group project linked theoretical knowledge to practical application as I interviewed students and workers of the Writers’ Center to uncover their primary needs and objectives. Deliverables from this project included: surveys, marketing materials, a recommendation report and analysis of survey results. The poster will connect the educational material to the final products delivered to the Writers’ Center for review.
Synthesis and Purification of Aldol Condensation Products Between the Nicotine Related Alkaloid Myosmine and Heterocyclic Aldehydes: Trials and Tribulations
Anh Le

Travis Denton, Chemistry and Biochemistry

The nicotine related alkaloid Mysomine has shown promise in the fields of smoking cessation, Alzheimer’s disease research and many more. Our research group is focusing on a program towards functionalizing Myosmine at the dihydropyrrole ring using an Aldol condensation strategy to afford functionalized Myosmines. This panel of compounds is currently being tested as ligands for the acetylcholine binding protein to determine lead compounds to be studied further in the field of Alzheimer’s disease research. Some compounds were straightforward to prepare and purify and many were not. A discussion of the trials and tribulations of these efforts will be discussed.

21-Year-Old Male Basketball Player with a Jones Fracture
Robert Leach, Patrick Meisenheimer, Andrew Downing, Katelyn Hill, Josh Aarnes
Garth Babcock, Physical Education, Health and Recreation

A Jones Fracture (a fracture of the proximal aspect of the 5th metatarsal) is a very common injury suffered among basketball players; however, not every individual recovers the same. The participant in this study presented with swelling, pain, and point tenderness, after an x-ray was then diagnosed with a Jones fracture during the 2011 summer prior to the basketball season. This patient further suffered a stress fracture of the same bone that further complicated the recovery process. This case study examined the surgical procedure, as well as ways to strengthen, and protect and prevent further injury so that he could compete in collegiate basketball.

Arsenic Content of the Latah Formation and Its Effect on Local Groundwater
Ian Leavy
Carmen Nezat, Geology

In eastern Washington, isolated cases of private wells being contaminated with arsenic have been reported over the last several decades, including one well located on the Peone Prairie near Mead, WA. These cases all exceed the EPA’s Maximum Contamination Level of 10 parts per billion. High levels of arsenic in drinking water can cause health problems including bone and tissue cancer as well as skin disease, night blindness and immune system deficiencies. One possible source of the contamination is the Latah Formation, which are Miocene sedimentary interbeds within the Columbia River Basalt Group. To test this, Latah Formation samples from eight locations in and around the Spokane area, as well as several samples from other geologic units more common to the study area (for comparison), are being analyzed. The samples will be sequentially leached in order to extract arsenic pools of different mobilities. This will be used to determine the content of arsenic and associated minerals within the Latah Formation as well as their mobility and distribution throughout northern Spokane County.
The Growing Dead: How Zombies Went Viral

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. While previously a niche market spawning several films (which have reached cult status and formed a devoted fan base), recent years have brought the zombie into the mainstream. Acting as both a nightmarish distortion of humanity and an eerie metaphor for our own cultural values, zombies have gained a new role by symbolizing how we view modern society.

Analysis of Water Quality and Sanitation in Peru

Nathan Lewis
Mary Ann Keough Hoss, Health Services Administration

Through the course of an intense literature review of government documentation, the World Bank, primary literature, and other sources, this study focuses on water supply and sanitation in Peru. To better understand the effects poor water has on communities of developing nations like Peru, this presentation will discuss the following areas: Peruvian Water Sanitation, Water Source and Access, and other related issues. It will also discuss how the United Nations Human Rights Resolution and the 2015 Millennium Goals could have substantial impact on the issues with Peru’s POU water as a developing nation. Based on the evidence provided from this research, it is recommended that the following be implemented in the peri-urban communities of Peru:

1. Ensure that equal and equitable access to clean POU water is provided to community members and that the inequitable cost be mitigated.
2. It is important to use comprehensive community-based programs, noting that these programs should provide the proper materials, guides and support staff.

Spokane Youth Services: How Engagement Fosters Success

Lateasha Lewis, Trevor Liebing
Sue Wright, Children’s Studies

This presentation focuses on youth engagement as an important contributor to program and student success. Funded by a grant from Priority Spokane, through the Inland Northwest Community Foundation, Harriet Cheney Cowles Foundation, and Empire Health Foundation, findings are based on interviews with twelve Spokane area youth support organizations that demonstrated success in improving youth participants’ academic performance. Interviews were coded for themes around engagement, risk factors, school and community collaborations, parent involvement, transitions, and role models. Findings on student engagement suggest that 1) building self-esteem and empowerment through engagement is key in success, 2) students’ sense of competency is more important than grades in demonstrating success, and 3) indirect relational engagement is important in combination with direct academic engagement.
Climate Controls on Dendrochronology of Ponderosa Pines
Kassandra Lindsey
Richard Orndorff, Geology

The thicknesses of growth rings in many trees correspond to changing climate conditions at the time of ring growth. We studied tree ring thickness in Ponderosa Pines in the Cheney/Spokane area to attempt to correlate ring growth to past local climate conditions. Ponderosa Pines (*Pinus ponderosa*) are distributed throughout the Pacific Northwest. They usually grow in elevations ranging from 0 to 3000 m, favor areas with well-drained soils, and prefer 30 to 60 cm average annual precipitation. We sampled cores from 10 different trees in the Turnbull National Wildlife Refuge. From 1885 to 1920 cores show an overall increase in ring width, followed by a rapid decrease until about 1940, from which time ring width either decreased slightly or remained constant. We also analyzed long-term trends in seasonal precipitation and temperature from 1890-2010. Spring precipitation increased noticeably, while summer and winter precipitation increased slightly. Fall precipitation decreased. Long-term trends in average seasonal temperatures for all seasons show a decrease by two degrees or less.

Clarity Requires Visual Cues
Karhonkwison Logan
Molly Johnson, English - Technical Communication

My research poster highlights my study of visual communication and semiotics as they relate to written discourse. All writing needs the aid of visual cues. In fact, all writing is a form of visual that links together to form meaning; letters are symbols with the attached meaning of sound, and written words are just complex rearrangements of those symbols used to create complex meaning. Once someone has learned to recognize the letters in a word, they’ve attached meaning to the symbolic representation to the word itself. These symbols are a part of semantics, which is the conveyance of meaning in communication. C. S. Peirce separated visuals into ten categories of semantic meaning and then further whittled them down into three sign types: Icons (images), Indices (indicators), and Symbols (words). Using all three of these “types” in balance will create a message that is clear and complete for the reader.

“A Cotton Song”
Briana Lummus-Ekborg
Judy Logan, English

A Sestina in honor of my grandmother and her unending patience with the world. It starts with dewy cotton in hazy morning light. Mamma rouses us, grainy-eyed to start the picking. Calloused bare feet trudge to damp white fields, sacks slung across slender bodies, small fingers picking the boll. To pass the time, “In the Pine,” mamma sings, her southern drawl caressing the cotton, which sings back to her. Our fingers fight the stubborn cotton, begging, pleading our livelihood, please leave the boll so we may eat. And mamma, always furthest down the shimmering fields chiding us softly when we begin to slow, “keep picking.”
Rehabilitation for a Decompression Laminectomy Secondary to Degenerative Lumbar Spinal Stenosis: A Case Report
Derek Lusk
*Darl Vander Linden, Physical Therapy*

BACKGROUND: Spinal stenosis (SS) is a narrowing of the spinal canal with encroachment on neural structures. Surgical intervention involves a laminectomy. Research is limited on post-op rehab for a laminectomy. This case report describes the rehab of a patient, post-op L4-L5 laminectomy. CASE DESCRIPTION: The patient is male (age 73) with SS diagnosed on 6/11/11. An L4-L5 laminectomy was performed on 6/15/11. The patient reported to physical therapy (PT) on 7/6/11, with leg weakness, difficulty ambulating, and pain (6/10). Rehab included soft tissue work, exercises, and modalities. OUTCOMES: After 5 weeks of PT, the patient still had limitations in activities of daily living. The patient’s pain decreased (1/10). At this point the patient continued PT. DISCUSSION: Reasoning to why the patient had minimal improvements in activity and participation is unclear. Further research is needed for post-op rehab in this patient population.

Spokane Clean Air Internship
Ryan Magryta
*Molly Johnson, English - Technical Communication*

My internship with Spokane Regional Clean Air Agency is a form of service learning since I’m able to enhance my knowledge and also educate the community. Spokane Clean Air wants to inform Spokane County citizens about current issues on air quality in the environment. My duties include working with Adobe Creative Suite to design promotional materials for events. I’ve researched and summarized specific information on organizations that can help Spokane Regional Clean Air Agency spread information on current clean air practices and issues to the Spokane County community. My duties also include the writing and preparation of many different news releases and newsletter articles concerning material translated from the jargon of organizations and manuals. These articles are to be published in the company newsletter: “On the Air.” I’ve helped educate the community on environmental issues about air quality though my work at this internship.

16-Year-Old Male Football Athlete with Multiple Knee Injuries
Nicole Maiden, Medea Bernsten, Amanda Laurita, Joe Kreilkamp, Jennifer Dawson, Yoshihiko Tsumekawa
*Garth Babcock, Physical Education, Health and Recreation*
*Jeff Kawaguchi, Physical Education, Health and Recreation*

Knee injuries in contact sports are fairly common and often involve at least one of the four primary ligaments that hold that joint together. The participant in this study was a 16-year-old male football player who sustained a grade II ligament injury to his MCL and LCL, as well as a large osteochondral lesion along the lateral femoral condyle, and who presented with significant joint effusion. These injuries were sustained during a practice drill for football when another player landed on the participants out stretched fully extended left knee. Permission from the parents and the athlete allowed for review of the athlete’s medical records, which included the evaluation, treatment and rehabilitation of these injuries as well as the current status and prognosis. The goal of treatment was to restore strength to the leg and return the participant back to play.
Service Learning with EWU’s Writers’ Center and What I Learned
Catherine Mair
Molly Johnson, English - Technical Communication

For my English 305 Professional Communication course’s service learning project, my group and I worked together and redesigned the promotional materials for EWU’s Writers’ Center. In attempts to clarify their goal, emphasize the resources offered and spread the word to more writers, we created an interesting and cohesive style between all the promotional materials. To gain a greater understanding of where to go with the redesign, we conducted student surveys along with interviews, researched other college’s writing centers, conducted two usability tests, and proposed our ideas to our client, EWU’s Writers’ Center staff. Participating in the Writers’ Center discussion of whether to evolve into a multimedia center, we created a recommendation report that summarized our findings, and included a proposal for how we felt about the discussed evolution. Being involved in such a multilayered project taught me many skills such as how to work successfully in a group, correspond and deliver satisfying materials to a client, and how to create a cohesive set of informative promotional materials.

Integrating E-learning in the Education Instruction
Alyaa Malibari
Kevin Pyatt, Education

E-learning in general is the language the new generation understands. On the other hand, teachers are not from this generation, and they are not as strong in knowing the technology as their students. Therefore, integrating e-learning in the education system is not going to be easy, but it’s not impossible. The purpose of this poster is to introduce this concept into the education system without complicating old and new concepts in education. Also, I will introduce the best ideas such as social networking as part of e-learning and new technology the new generation uses on a daily basis. Finally, I will also address how the education system in Saudi Arabia is going to see this concept.

Capturing Light and Action: A Showcase of Sports Journalism Photography
Aaron Malmoe
Jamie Neely, Journalism

This series of photographs will present sports photography from the 2010-2011 to 2011-2012 school years. Aaron Malmoe took these photographs while working for EWU’s student newspaper, The Easterner. A slideshow will display his work, including approximately 30 of the best action shots during these school years. The images were crafted to help the change the way the viewer sees Eastern athletics. This display will evaluate the choices related to lighting, composition, and point of view that made these photographs stand out.
Case Study: Psychological Obstacles in an Individual After Periacetabular Osteotomy
Quinn Jose Marianno, Liz Reinstein, Liz Gelhaus, Amanda Humphrey
Jeffrey Kawaguchi, Physical Education, Health and Recreation
Garth Babcock, Physical Education, Health and Recreation

Major hip surgery is uncommon in the collegiate, athletic population, and demands a high level of motivation to endure extensive rehabilitation required to meet return to play criteria. The case study was conducted on a 20-year-old D1 women’s basketball athlete that underwent a periacetabular osteotomy as treatment for hip dysplasia. The athlete also has a history of Legg-Calve-Perthes requiring a Salter osteotomy at the age of 10 years old. The focus of the study is on the rehabilitation after the surgery. The process of treatment and rehabilitation as well as dealing with psychological obstacles, counterproductive gait behaviors, complacency and motivation are discussed.

Quantification and Analysis of Apis melifera Mid-gut Bacterial DNA and the Effects of Agricultural Practices on the Population Density
Hailey Markam-Patti, Keara Rypien
Institute of Science and Technology at North Central High School
Randy James, Biology
Steve Fisk, Anthropology

Quantification of Apis melifera mid-gut bacterial consortia populations can be utilized to analyze the effects of environmental perturbations such as agricultural chemicals and lend insight into the health of Honey bee hives. Changes in gut flora can be attributed to changes in bees’ diet and the chemicals that are applied to the base material that is being foraged. Total DNA extraction and quantification including 16s PCR quantification was used to analyze the effects of various crop agricultural applications on mid-gut bacterial consortia quantities.

Hemingway’s Ladies
Casey Martin
Paul Lindholdt, English

In Hemingway’s stories “Hills like White Elephants,” “For Whom the Bell Tolls,” and “The Snows of Kilimanjaro,” the protagonists are all involved with women, and each feels differently about his female companion. In “Hills like White Elephants,” the American dreads the idea of having a kid with his lover and pushes her to have an abortion, despite everything she says. In “Snows of Kilimanjaro,” the man is so fed up with his female companion that he begins to call her degrading names and blames her for everything wrong in his life, even in the last agonizing moments of his death. In “For Whom the Bell Tolls,” we see a different side of Hemingway. Although the main character Robert Jordan is not looking for love when he comes to help in the Spanish Revolution, it is clear that love is exactly what Jordan finds. Each of these stories reflects a unique kind of relationship. The American and Jig have a relationship where love never existed at all, Harry and his female companion have a relationship where love is lost; while Robert Jordan and Maria have a relationship where true love flourishes.
Validity of A-Mode Ultrasound in College-Aged Adults
Tyler Mattair, Ryan Maynes, Ken Dragoo
Wendy Repovich, Physical Education, Health and Recreation

Percent body fat (%BF) assessment techniques can identify health risks for cardiovascular and metabolic diseases, and can monitor the effects of training on body fat. Skinfolds, a valid and widespread technique, and A-mode ultrasound are simple techniques for measuring %BF. This study was conducted to validate the ultrasound for measuring %BF when compared to skinfold calipers. 46 college-aged adults reported to the laboratory for one visit. Height and weight were measured on a metric stadiometer. Skinfold measures were taken twice at the thigh, chest, and abdomen for men and the thigh, triceps, and suprailiac for women. Two ultrasound measures were subsequently taken at the same sites. There was a significant difference between skinfold (25.6 ± 10.5%) and ultrasound (22.5 ± 6.7%; p = 0.001) and a significant correlation between skinfold and ultrasound (r = 0.841, p = 0.000). Although positively correlated with skinfolds, ultrasound underestimated %BF.

Digit Span and Academia
Jay Mattson, Anna Maryott, Richard Turner
Theresa Martin, Psychology

Brosnan (2006) investigated the ring finger - index finger measurement differential (referred to as 2D:4D ratio) with a sample of university faculty. He discovered that faculty from the social sciences have a different pattern of the 2D:4D ratio than do faculty from the natural sciences. In our study, we are investigating whether a similar pattern exists for undergraduate students majoring in these academic areas. We will present data from entry-level students compared to students in their senior year.

Hero, Traitor, Siren: Myth Archetypes in Shakespeare’s Troilus and Cressida
Shannon Mauldin
Paul Lindholdt, English

In Troilus and Cressida, Shakespeare reimagines the traditional myth archetypes described by Northrop Frye, transcending the often-rigid confines of myth structure. Applying Frye to Troilus and Cressida reveals Cressida as the hero of the play and refocuses the play onto the societal roles of women, as exemplified by Cressida’s character arc. She is simultaneously hero, traitor, and siren, a triple casting that serves as a searing indictment of the patriarchy that governs the world of the play. Interpreting Troilus and Cressida as a sunset myth illuminates the shadows that obscure the female characters to a state of near invisibility, both within the play and to the audience.
Aristotle’s Humor is not Superior, but Incongruous: Putting Both Gloves on for Double the Punch Line
Amanda Maule
Dana Elder, English

Scholars have traditionally placed Aristotle within Superiority Theory of humor. Yet that placement may be misjudged because of the “baseness” of humor during his time and the debate of authorship of the “Tractatus Coislinianus.” Most agree that the “Tractatus” is an outline of tragedy and comedy consistent with Aristotle’s extant works. The translations and expansions provided by Lane Cooper and Richard Janko of the “Tractatus” simplifies and aligns with contemporary psychological and linguistic theories of humor including Incongruity Theory and the General Theory of Verbal Humor (GTVH). Tracing the influence of the “Tractatus” to the GTVH shows Aristotle’s usefulness in linking the diction and action (style and content) of humor in the same pattern of the GTVH knowledge resources. Both theories are mutually substantiating and direct the heuresis (invention) and mimera (memory) of humor, while most contemporary humor theories and those written for the general public and writers direct lexis (style), taxis (arrangement), and hypocrisis (delivery).

Humor of Redefinition: Hybridizing Creative Nonfiction and Standup Comedy
Amanda Maule
Natalie Kusz, English - Creative Writing

As a student of creative nonfiction and humor groupie, I can’t help but notice renaming and redefinition are at the core of both genres. This creative nonfiction essay will follow a guide or taxonomy based on analyzing humor from both genres against the causes of laughter in Aristotle’s “Tractatus Coislinianus,” which outlines comedy based on both diction and action (style and content). The taxonomy is based on the prevalent patterns from creative nonfiction writers including Dave Eggers and Sarah Vowell and from standup comedians George Carlin, Patton Oswalt, and Bill Hicks, who all engage redefinition for argumentation. The primary goal of this project is to establish a useful taxonomy that links choices in content to choices in style deliberately and descriptively because guides for writing humor in contemporary theories usually speak only to the choices in style. Another goal is to nudge humorous creative nonfiction toward a humor that is evident in the global structure and main argument of the piece rather than in the smaller puns and entertaining characterizations.

Relationships Between Government Moral Issues, Politics and Gender
Jason McAllister, Douglas Emerson
Mahlon Dalley, Psychology

In our study we used previous research done through a PAIRTAPS survey and analyzed the given data to see if there were any differences on Government moral issues such as drafting, war and execution versus a political and gender basis with Eastern Washington University students.
Cultural Views and Death
Jason McAllister
Theresa Martin, Psychology

This web-based survey study investigates the relationships between self-esteem and attitudes about death. Previous research by Templar resulted in the development of the Death Anxiety Scale, a scale that basically asked about negative reactions to death. In this study, I developed a scale that incorporated more positive world-views questions about death. For my results I will be comparing how positive and negative views of death are related and whether self-esteem is linked in a systematic way to either of these viewpoints.

The Beedles
Keegan McClung
Tom Mullin, Film

The Beedles try to save their marriage by disposing of the dead body of a private detective that they murdered when he threatened to expose the couple’s infidelities.

Proof Scene
Ross McCrorie, Lexi Hoffpauir
Sara Goff, Theatre

My acting partner and I will be performing a piece from David Auburn’s play Proof. We performed this piece for our final project in acting one. Incorporated into our scene is our work on archetypes and psychological gesture, which we covered in acting one.

The Frostblaukugel of Himmelsward—A Reading
Bergen McCurdy
LaVona Reeves, English as a Second Language

The Frostblaukugel of Himmelsward is a fantasy-themed book created as supplemental material for an English curriculum to teach English to second language learners. The book is designed to help students make predictions and focus on the story’s plot, characters, and environment as well as the themes in the book and the cultural elements. Written in English, The Frostblaukugel of Himmelsward also includes some German-English hybrid compound names and descriptions to help the students compare and contrast the English language with another language. This method of instruction also introduces the students to another language and helps them to connect the book and languages to their own language.
An Overview of Open-Source Technology
Conor McMillan, Britt Yazel
Lance Walker, Information Technology

Open-source products are entering the mainstream consumer space, but have yet to take a firm hold in our universities. Many of the reasons for this type of software not being integrated into our academic system stem from archaic opinions on the nature of open-sourced technology, and that we as a society have grown accustomed and dependent on proprietary software. While the “if it isn’t broke don’t fix it” strategy may keep a stable infrastructure, as an academic community we should always keep an open eye to alternatives to the standard, generic models, especially when those alternatives can potentially save countless dollars. The goal of this presentation is to demonstrate the level of excellence in much of the free software being created by the open-sourced community today and how it can have a practical value in our university system functionally, financially, and ideologically. Considering open-sourced technology comes from the mindset of an open sharing of knowledge, advancement, and collaboration, its placement in a university infrastructure seems like the perfect fit.

Perceptions and Personality Correlates of Attitudes Towards Friends with Benefits Relationships
Stefan McNamara, Adriana Sanchez, Alicia Schimanski
Theresa Martin, Psychology

This presentation reviews results from two studies. The first study investigated student attitudes regarding Friends with Benefits relationships. The second study investigated personality correlates of both attitudes and intentions regarding Friends with Benefits relationships.

Blind
Henry McNulty, Composer
Logan Stoodley, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Blind tells the story of Mary, a young war veteran recently returned from her last tour of duty. Blinded while on deployment, Mary suffers debilitating Post Traumatic Stress and is unwilling to leave her home. One day, she is left alone, and forced to take care of herself. Eventually Mary’s physical state soon forces her to confront her mental anguish, as even the most mundane of events can become a challenge when one cannot see. The music in Blind reflects Mary’s turbulent mental state as she struggles to cope with everyday life and her recurring flashbacks. Blind was written and directed by Logan Stoodley, stars Hannah Heilman as Mary, and features original music by Henry McNulty.
The Earthquake That Reformed Japan: The 1923 Great Kanto Earthquake
Elizabeth McNutt
Bill Youngs, History

The Great Kanto earthquake of 1923 was considered among the most destructive natural disaster ever recorded. At 11:58am on September 1st, the 8.2 earthquake decimated an area known as the Kanto plain located on the largest island, Honshu. Subsequently the earthquake spawned revolts against Korean Immigrants, blaming them for lack of adequate water and fires following the earthquake. Political upheaval disrupted relations between the United States and Japan, and internal resentment made itself present. The aftermath presented Japan with widespread rubble. Rebuilding efforts were geared more towards restoring Japan’s prewar power status. The Imperial Government took this time to turn Tokyo into a metropolis by reestablishing previous infrastructural arrangements. It wasn’t until 1978, that Japan enacted the Large-Scale Earthquake Countermeasures Act, which put in place a response team and earthquake prediction machines. My paper will answer the question of: How was the Great Kanto Earthquake a catalyst for social unrest and support, political upheaval and earthquake countermeasures?

Post-Socialist Mongolia: Examining Socioeconomic Disparity in an Emerging Democracy
Ashely McSpadden
Tom Hawley, Government

This presentation examines the Mongolian perception of an incongruity between the principles of democracy and the emerging forms of political and economic disparity that develop within democracy. In the summer of 2011, a series of forty interviews were conducted among residents in central Mongolia. Two primary problems with Western characterizations of Mongolia’s transition surfaced through these interviews. Even as they expressed a preference for the liberal principles of the current system, Mongolians also expressed dissatisfaction with unintended changes brought about by the transition to democracy and nostalgia for the egalitarianism of the socialist period. By confronting the dissonance between the positive opportunities that democracy has provided and the perceptions of negative effects the system has had on social relationships, a broader, more critical understanding of the larger implications of various forms of democracy may be reached.

The Mirage
Seth Mead
Tom Mullin, Film

As a young man and his band mates anticipate their band’s big show, reveling in delusions of grandeur, the pressures of expectation start to outweigh his excitement, and he begins to lose sight of the true reasons he wants to express himself through music.
A Pathogen Is Attenuated to Its Native Host Following a Host-Shift
Arley Medrano
Luis Matos, Biology

We developed two Drosophila species and the sigma rhabdovirus as a model system for the evolution of virulence. We tested the hypothesis that after shifting onto a novel host a pathogen becomes attenuated to its native host. To this end we took D. melanogaster-evolved (native host) virus and D. simulans-evolved (novel host) virus and introduced them into native females from each species. These flies were exposed to CO2 to determine infection status (infected flies die upon exposure to the gas). Additionally, infection status and fitness was measured as a proxy for virulence in the offspring of the artificially infected flies. The host shifted virus was equally virulent in the native and novel hosts. However, the virus’ ability to infect the native host was significantly lower than its ability to infect the novel host. These data indicate that the pathogen was attenuated after spending 17 generations on the novel host, thus confirming our hypothesis.

Transitioning Journalism to an Online Medium: How The Easterner is Developing Students into New Media Specialists
Amy Meyer, Grant Stancliff
Jamie Neely, Journalism

The Easterner migrated from Campus Media Networks web hosting to EWU sites hosting with WordPress this last summer. Now that the editors have become more comfortable with that content management system, the student newsroom is taking steps to host themselves on an independent WordPress site. The oral presentation will explore steps editors have taken to migrate from one site to the next, the features of the new website, what editors thought mattered as opposed to what turned out to matter, and how and why WordPress was leveraged as opposed to any other content management system. Editors will discuss the system behind breaking news online prior to print, how they are setting reporters up for success, and how they keep a learning newsroom learning.

Untitled
Erin Mielcarek
Chris Tyllia, Art

Untitled ceramic sculpture by Erin Mielcarek. Ceramic exploration of space and form.
A Monologue from William Shakespeare’s *A Midsummer Night’s Dream*
Chelsey Miles  
Sara Goff, Theatre  
Jeffery Sanders, Theatre

Helena delivers this monologue in act I scene 1 of *A Midsummer Night’s Dream*. Left alone by her friend Hermia, Helena mulls over the fickle nature of men and love. Her love interest Demetrius is in love with Hermia, even after he claims that he could love only Helena. By the end of the scene, in the hopes of receiving any kind of attention from him, Helena decides to inform Demetrius that Hermia is running away with Lysander. This piece was originally performed in Jeff Sander’s Acting III class as part of a larger scene.

Optimization of a Modular High Speed Motion Tracking Pneumatic Robotic System
John Milton, Tomas Armenta  
Awlad Hossain, Engineering and Design  
Martin Weiser, Engineering and Design

Our team of engineering students and supporting professors from EWU are developing a novel high-speed robotics system that uses pneumatic linear actuation. The robotic paddle system is assisted by four high-speed cameras that can track a ping pong ball and actuate our paddles to play a game against a human opponent. Our research covers high-speed motion tracking, object recognition optimization, and pneumatics. The modular paddle system can be broken down into two components a rear and forward paddle. The rear paddle consists of an air cylinder for forward motion and guide rods for stability. An electro-pneumatic transducer, which takes an input signal to create a linearly proportional output pressure, is being implemented to control our air cylinders enabling us to vary the velocities of the paddles. The forward paddle incorporates four servo motors that will be used to create the desired angles to hit the ball back to an opponent.

Is There a Premium Earned by Professional NFL Players Due to Participation in Certain NCAA Conferences?
John Mojica, Connor Cockle, Brandon Evans  
Kelley Cullen, Economics

The research that is currently being done will try to evaluate whether there is a premium paid to NFL rookies who come from certain conferences. Our research team has compiled data on quarterbacks drafted in the NFL since 1998; some of the variables include salaries, draft position, passer rating, class standing, bonuses, team payroll, and strength of schedule from the Colley rankings. With this data we will try to do an econometric analysis on what the driving factors are for the starting salaries for NFL rookies are, which will help to evaluate if there is a premium paid to athletes from certain conferences.
A Methodological Problem in the Study of the Evolution of Language: The Question of the Loss of Laryngeal Air Sacs and Humanoid Vocal Anatomy
Heather Molvik

How is the evolution of language associated with the loss of laryngeal air sacs in humans? These air sacs seem to serve a vocal function for non-human primates, so their disappearance within modern day humans is puzzling. The first step in exploring this question is to develop a method for its investigation. The soft tissue of vocal tract anatomy is lost to biodegradation; therefore, the presence of air sacs must be inferred from hyoid skeletal evidence. To do this, one must unearth a proto-human hyoid and compare that to the scale of hyoids within our evolutionary line. This would make apparent where in time the loss of air sacs occurred and when the beginnings of modern speech anatomy possibly took place.

Get Lit!
Nathan Morales
Molly Johnson, English - Technical Communication

For my symposium poster I decided to choose Eastern Washington University’s Get Lit! Program. This service-learning project’s main goals are to engage members of the Inland Northwest community in a celebration of the written word and to encourage discussion, at all age levels, of literature in its many forms. This project supports the use of technology to produce professional documents such as festival flyers, posters, brochures, programs, surveys and itineraries. My past design courses have given me the knowledge and skills with Adobe software allowing me to create these marketing materials. The festival also requires the application of information design principles for the production of documents needed to asses and respond to festival staff, authors, volunteers and sponsors. Get Lit! has a significant community impact and is invested in enhancing the artistic, social and cultural life of people throughout the region. Constructing a poster that displays the impact each event has on the community should be an interesting, challenging and rewarding project.

I Am a Blowfish
Britta Moran
Tom Mullin, Film

Jesse Pinkman, from the television show Breaking Bad, is a character whose entire persona is a front he uses to make himself seem more powerful than he really is. Using the metaphor of a blowfish, I will delve into the differences between the meth industrialist and the person Jesse Pinkman really is beneath it all.
Animal Jackers
Mark Morrison, Composer
Krystal Alexander, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Directed by Krystal Alexander and composed by Mark Morrison, Animal Jackers follows the tale of two young men (dressed in animal ears, establishing one as a Cat, and the other, a Mouse) who wish to enter a gang. Before they can be initiated into the gang, the leader explains that one of the two would have to steal his mother’s car in order to be permitted to enter the gang. A competition ensues as the two rivals rush to steal the car. The soundtrack will capture the dark tension in the film.

Ancient Egypt and Free Will
Larkin Mullin
David Weise, Philosophy

I will discuss free will as manifested in the literature of Ancient Egypt comparing the ideas to those of David Hume and Albert Camus. I will be drawing from The Shipwrecked Sailor, the first start I learned to translate from hieroglyphics.

The Kimono in Modern Japan—Customs and Symbolic Meanings
Saki Murakami
LaVona Reeves, English

The traditional Japanese kimono is often worn for the first time when women turn 20 in Japan, and they go to the city hall to celebrate the coming of age ceremony with other 20-year-old Japanese women and men. The cultural expectations regarding how and when to wear the kimono have not changed much in recent years, though it is worn less often and is very expensive, especially when custom made. The kimono parts and accessories are analyzed as well as the symbolic meaning for modern Japanese. In kabuki plays, for example, the movement of the kimono sleeve may signify weeping in the woman wearing it as explained by Noel Burch. By contrast, in Japanese literature, we may also see a dancer pull a cigarette out from inside her deep kimono sleeve (Rimer & Gessel), which is deep like a pillowcase. Even today, the kimono signifies many things to many people, and this is explored here.

Wind Machine Blade Length
Shannon Murphy, Rachel St. Amand
Rodger Hauge, Education

Through this investigation, we are going to explore and research the effects of wind machine blade length. Additionally, we are going to create a model for this alternate energy source.
Teaching Self-Management Skills in the Prevention or Management of Risky Behaviors
Holly-Ann Musgrave, Jessica Kauffman, Victoria Borgman
Charalambos Cleanthous, Counseling, Educational and Developmental Psychology

A preventative intervention was created to teach participants how to prevent or manage risky behaviors. The intervention involves teaching both knowledge and practical skills. Students complete a pre- and post-assessments of basic knowledge and attitudes about risky behavior. An anonymous weekly report form allows students to track their actual behaviors. A self-observation diary allows each participant to intervene using the skills from the course on their own behaviors.

Wall-E: A Tale of Love That Transcends Manufacturing
Christopher Neir
Pete Porter, Film

Our lives are structured, as if manufactured, deterring us from what it means to be human. In Wall-E (directed by Andrew Stanton, 2008), two robots whose purpose is to abide to a certain set of instructions separate themselves from what they are to obey and instead irrationally fall in love thereby defeating their life’s programming. This comes full circle when we see Wall-E and EVE locking hands at the end of the movie. As I explain in this short essay, Wall-E and one particular shot to me describes and expresses the overall message of the film that love prevails and that the quest for a purpose is always changing and adapting to new and exciting surroundings.

Inspiring the Future: A Proposal to Build and Supply
Kayla Newton
Molly Johnson, English - Technical Communication

Per the requirement of my technical communications major, I enrolled in a proposal writing class, English 407. The class was split into teams and partnered with different organizations in Cheney and Spokane. My team, H.A.N.D. to Hand, collaborated with Mobius Kids to write a grant requesting $11,880 from the Community Building Foundation. Mobius Kids is a Northwest Institution that strives to bring motivation and interest to all genres of education, especially in the areas of science, art, and culture. The grant we wrote proposed a three-step plan addressing the educational disparity between Title 1 and high-income schools. With the help of Kyle West, the Development Manager, my team and I learned how to research multiple databases for potential funders; locate state data to prove the existence of the academic disparity; calculate a prospective budget that addressed all the needs of our client; and were introduced to the grant review process utilized by organizations accepting applications.
The Treatment of a 21-Year-Old Female Volleyball Athlete with L5-S1 Stenosis Using Primal Reflex Release Technique

Jamie Nikander, Kaiti Bolles, Jenny Ach, Asiya Akhgar
Jeffrey Kawaguchi, Physical Education, Health and Recreation

Spinal Stenosis is the narrowing of the space between the vertebral column or between the vertebrae through which nerve tissue passes. This condition can be caused by injury or genetics. In the current study, the patient presented with severe low back pain that was aggravated by excessive diving, trunk flexion, and menstruation. MRI results showed a posterior disc protrusion causing mild right foraminal stenosis in the L5-S1 region. Initial rehabilitation included stretching, muscle strengthening and exercises to stabilize the Sacroiliac joint. When minimal improvement was seen, Primal Reflex Release Technique (PRRT) was prescribed. The patient received PRRT bi-weekly in addition to traditional rehabilitation. Assessment of hip flexor strength and pain reduction was used to measure progress.

What’s in a Name? Peaceful Valley Community Center

Amber O’Connor
Molly Johnson, English - Technical Communication

The Technical Communication degree at EWU encompasses a range of skill sets from composition to design and public relations. A three-course survey of Public Relations theory and practice is built into the degree. In one of these courses I had the opportunity to work with the Peaceful Valley Community Center (PVCC) that serves much of Spokane’s Lower West side through food and clothing banks, youth centers, and educational outreaches. Community need outgrew available resources, and plans were made to expand the facility increasing the center’s capabilities. The problem: No one knew who they were and, even worse, their name and connection to what many consider a seedy part of Spokane damaged credibility. Our team created a media presentation and brochure for the community center with the goal of educating the public about the PVCC, the good works they do for the community and their need for additional resources and support. This poster explores the importance of branding, reputations and effective public relations practices.

Tea Ceremony, One of the Three Traditional Japanese Arts

Mao Ogura
LaVona Reeves, English

This presentation traces the history of Japanese tea ceremony, explains when Japanese have a tea ceremony, and what the lessons are. Sennorikyu started the tea ceremony, and there are particular kinds of green tea (matcha), tools, foods, flowers, and customs associated with the ceremony. Chagashi-cakes, have symbolic meaning, as do the flower arrangement in the room and hanging scrolls on the wall. Each movement is practiced carefully and perfected by the student. The ceremony is not only about tea, but also about beauty and harmony. There is a theory of “once-in-a-lifetime” when tea ceremony makes a point of meeting others. Seven elements of the ceremony will be explained. Slide show of a tea house, utensils, and room is offered.
“General William Booth Enters into Heaven” and the Re-envisioning of Poetic Style Through “Are You Washed in the Blood?”
Kurt Olson
Paul Lindholdt, English

As a cross-genre piece, Vachel Lindsay’s poem “General William Booth Enters into Heaven” holds a place in both literature and music. Lindsay’s incorporation of the musical elements of Elisha Hoffman’s hymn “Are You Washed in the Blood?” allows for a new interpretation of the accentual-syllabic structure of American poetry. By setting the accented syllables of the poem in relation to the quarter- and eighth-note stresses of the hymn, Lindsay re-imagines the traditional stress pattern of the English language. In this re-imagining of traditional English stress patterns, Lindsay is able portray images of both the macabre and the glory of the Christian heaven simultaneously. This borrowing from another medium allows artists, such as Lindsay, to create a truly original work that cannot be conveyed through the use of one medium.

Rusty Nachtmahr
Erin Pallai
Greg duMonthier, Art

These altered My Little Pony sculptures are about rejecting stereotypical gender roles and gender-biased toys. They’ve been turned into darker and grittier toys while still retaining some vestiges of the “girls only” toys they used to be.

3D Character Animation and Design
Joseph Pallaria III
Brian Kamp, Computer Science

The world of 3D Graphics is an ever-expanding market, covering a wide array of mediums including movies, video games, and animated shorts. My research presents the workflow of specific sector of 3D graphics that involves character modeling, rigging, and animation. I created a custom 3D model that I connected to a virtual bone system, or “rig,” which simulates the anatomical bone structure of the human body. By connecting a 3D character to this bone system, I was able to create life-like movement the way a real human would be able to move.

Susto from a Medical Anthropological Perspective
Anne Parsons
Jerry Galm, Anthropology

Susto is a culturally derived illness found among Latino populations in the United States as well as in Latin America. Translated it means “sudden fear” or “fright” in Spanish. It is associated with the fear of losing one’s soul and can be brought about by a variety of events such as tripping over an unnoticed object or being socially impinged upon by society. Symptoms include restlessness during sleep, listlessness while awake, and general lack of appetite and interest in personal appearance. Healing of this illness is traditionally done through a curandero, or Mexican folk healer. Western trained physicians tend to diagnose these symptoms as excessive emotional stress or even clinical depression. For my presentation, I am comparing traditional treatment of susto with that of a westernized treatment and discussing disconnects which have arisen.
Delimitating Spokane’s Central Business District: An Urban Field Research Study, Part I
Matthew Parsons, William Sinclair
Dick Winchell, Urban and Regional Planning

A Central Business District (CBD) can be defined as the commercial and cultural center of a city. Planning Methods II students applied a field research model by Lounsbury and Aldrich (1986) Introduction to Geographic Field Methods and Techniques. This model uses field research to delimit a contiguous CBD for central cities between 100,000 to one million people using land use and building height data. Students collected and analyzed data on land use and building height to delimit the CBD within the City of Spokane. This research is of great value for planners to understand the dynamics of the CBD. Part I describes the model and focuses on density measured by building height.

Kempe and Kundalini: Literature, Spirituality, and Psychology
Brady Peneton
Logan Greene, English

The affective spiritual experiences of Margery Kempe (ca. 1373-1438), narrated in The Book of Margery Kempe, parallel contemporary and historical accounts of Kundalini awakenings, as yogis of the traditions call them. In the west, the array of symptoms associated with awakenings are called Kundalini syndrome or Physio-kundalini syndrome, though the terms are normally not familiar to or used by most practitioners of Western medicine, nor is it a popularly recognized condition. Early stages of awakenings are characterized by intense feelings of burning and warmth, and, if not fully realized or calmed, an awakening may lead into depression or eventual insanity. Literature covered may include: The Book of Margery Kempe, Silburn’s Kundalini: The Energy of the Depths, Clarke’s Psychosis and Spirituality: Exploring the New Frontier, Kundalini: Evolution and Enlightenment, etc.

The Columbia River
Marshall Peone
Richard Orndorff, Geology

The Columbia River is the largest river in the Pacific Northwest of Canada and the United States. The river has a vast drainage area of 259,000 square-miles that covers multiple U.S. States and one Canadian Province, and serves as an important resource to the people who live here. The river is used for transportation, recreation, irrigation, hydroelectric dams and more. There are 13 major dams along the Columbia River. One of them is the Grand Coulee Dam, which holds on average 4,084,000 million acre-feet of water. This body of water is known as Lake Roosevelt, which is used for the purposes listed above. Lake Roosevelt, at maximum, can hold over 9,000,000 acre-feet of water. Drought or climate change would impact the river greatly. Loss of water for irrigation would cause crops to fail, and hydroelectricity would be in short supply. The change of water levels can be seen changing drastically during the summer months when Lake Roosevelt and the Columbia River receive much less rain fall than during the winter months. A drought could change this even more.
Gratitude Toward God: An Exploration of Religiosity, Gratitude and Happiness
Andrew Pereira
Philip Watkins, Psychology

The purpose of this study was to explore one explanation for why religious people have been found to be happier. Given that gratitude has been shown to be an important aspect of psychological well-being, we theorized that an individual’s gratefulness towards God should mediate their happiness due to an increased opportunity for grateful expression as well by as creating a larger pool of positive events stemming from external forces. We expected this to manifest in the form of a participant memory bias as well as significant contributions to well-being after accounting for their trait gratitude. To test this hypothesis, we analyzed the self-reported religiosity, well-being variables, and recalled significant events that took place in the past month of 133 college students. The results from this study indicate that gratefulness towards God has a moderate relationship with positive memory bias but might be interdependent with general gratefulness in relation to happiness.

Listen Through Me
Matt Peters, Composer
Jake Moe, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Listen Through Me is a slow-paced, psychological drama about a man, Nick (Shay Smith), who suspects his longtime girlfriend Kali (Taelor Biotti) of seeing another man. We come into the story seeing Nick and Kali having little chemistry, which begs the question “Why are they even together?” Obviously Nick suspects that the relationship is dwindling, however his overall personality traits (drinking heavily and lack of emotional expression) limit his control in saving it. The music reflects the dark emotion of the film and conveys the character’s feelings.

Red Solo Cup
Ty Pfundheller, Michael Gerety, Co-Composers
Cierra Castleberry, Filmmaker
Jonathan Middleton, Music
Sarah Lee Monroe, Film

Red Solo Cup is a short narrative film by Cierra Castleberry, composed by Ty Pfundheller and Michael Gerety. The film is about a young college woman, Lucy, who is the odd man out with her roommates. She is a doormat for her roommates in order to gain acceptance. Eventually takes a stand by announcing that she will be attending a party with them. Once at the party Lucy finds herself abandoned by her roommates. She catches the attention of a young man at the party; he approaches her. At first she is skeptical, but eventually warms up to him. After some time and many drinks she excuses herself to the restroom, while she is gone he slips something into her drink. She returns and they begin their conversation again until she starts to feel the effects of the drug, at which point he leads her away from the crowd. The next morning Lucy wakes up in her bed with her roommates rushing in and explaining that she was roofied. The music for this film helps create a party atmosphere while expressing an underlying mood that is both tense and naive.
The Spiritual Profile of a Grateful Person
Stanislav Pichinevskiy, Cody Jensen, Sheila Suominen, David Ortiz, Jens Uhder
Philip Watkins, Psychology

Research has demonstrated that grateful individuals experience many positive advantages in life similar to religion. However, little research has investigated how spirituality might impact gratitude. In our study of 168 participants, we investigated the spiritual profile of grateful people. We measured gratitude using the GQ6 and GRAT scales and compared them with the GTG, Spiritual Transcendence Scale, AGI, and Intrinsic and Extrinsic Religiosity. We found that grateful individuals tended to be high on Spiritual Transcendence, especially in the realm of prayer fulfillment and universality. These individuals showed higher gratitude towards God and secure attachment to God. The spiritual well-being of grateful people was particularly high. Previous research has demonstrated that gratitude contributes to well-being. We contend that spirituality and religiosity play a significant role in the lives of grateful individuals.

Development of a Novel LC/MS/MS Extraction Assay for Galanthamine in Guinea Pig Plasma and Its Application to Nerve Agent Countermeasures
Ioannis Pikalov
Wes Steiner, Chemistry and Biochemistry

Galanthamine (GAL) is a reversible acetylcholinesterase inhibitor that is currently being studied in the role as a countermeasure for the treatment of organophosphorus (OP) nerve agents induced lethality in guinea pigs and humans. It has been shown that a single dose of GAL can safely counteract toxicity of lethal dose of OP compounds in guinea pigs. To that end a sample preparation extraction method analysis assay has been developed to enable future high-throughput, reproducible, and sensitive assays to quantitate GAL in guinea pig plasma. Samples were prepared with diphenhydramine internal standard in a simple one-step extraction using trichloromethane. The extracts were then analyzed with a chromatographic column interfaced to a triple quadrupole mass spectrometer (LC/MS/MS). Overall extraction method development proved to be acceptable and rugged.

Lake Roosevelt, Lake Whatcom and Wild Stock Fecundity-Length-Weight Comparison in Oncorhynchus nerka
Kristina Pikalova, Alix Blake
Allan Scholz, Biology

The study objective was to determine the potential number of eggs collected from returning hatchery kokanee salmon in Lake Roosevelt. Three stocks were examined: Lake Whatcom, Lake Roosevelt, and wild (non-marked) kokanee. This study focused on the relationship between fecundity and fish’s total length (mm). Linear regressions were performed using fish length as the independent variable and fecundity as the dependent variable. All the regression were significant for the three stocks: Lake Roosevelt: y=13.43x-3760.6 (r2 = 0.8690, P <0.001), Whatcom: y=7.5691x-1655.6 (r2 = 0.6808, P <0.001), Wild: y=11.705x-3741.9 (r2 = 0.7174, P <0.001). We determined total potential egg count was 188,454 (Lake Roosevelt: 79,125, Lake Whatcom: 26,424, Wild: 82,906). Of the 188,454 eggs potential collected 59,228 (31.4%) of those were at Hawk Creek, in turn 129,236 (68.6%) strayed to other locations within the reservoir.
Sigma Virus Genetics Unaffected by Argon Gas Exposure
Vera Pikalova  
Luis Matos, Biology

Carbon dioxide is an anesthetic for Drosophila melanogaster. However, CO2 is lethal to flies infected with the sigma rhabdovirus. Flies infected with the sigma virus typically are anesthetized using ice. Ice anesthesia is problematic because it is slow and flies drown as the ice melts. Conversely, argon gas anesthesia does not kill infected flies or affect their fitness when used for ten generations. Here I test the hypothesis that the argon gas anesthesia did not alter the virus’ genetics over the ten-generation period. To test this hypothesis, RNA was extracted from infected flies, segments of the virus’ genome were reverse transcribed, amplified by the polymerase chain reaction and sequenced. Sequencing results showed no significant differences between the genetic sequences of the sigma virus of D. melanogaster anesthetized with argon or ice for 10 D. melanogaster generations. Thus, argon gas appears to be a suitable anesthetic for sigma-infected D. melanogaster.

Refugees, Migration, and Security: An Overview of the Migration of Afghan Refugees and Its Reception in the United States and Pakistan
Ashley Podplesky  
Majid Sharifi, Government

Many believe the migration of refugees from their home country to their host country is reducing the sense of security in the host country for various, often xenophobic, reasons. This paper discusses the issue locally, nationally, regionally, and globally. I first described the experiences of an Afghan woman who resettled in Spokane, then looked at the views of the Democratic and Republican National Parties. At the regional level I analyzed the statements and actions made by the United States and Pakistan, and then completed a literature review to summarize the opinions of scholars with differing views. After considering the evidence it is my opinion that the migration of Afghan refugees is not a threat to national security, and that it is actually the international arena that is threatening refugees, as its lack of action is preventing members of the refugee population from receiving and enjoying basic human rights.

The Beer Bottling Robot
Brandt Porter, Jared Schiff, Paul Brockmann, Caleb Mazzola, Kyle Murray  
Donald Richter, Engineering and Design

Winter quarter 2012 we were required to work in groups in our robotics class and come up with a working industrial robot system using a FANUC Articulated Robot. Our group of 5 includes: Kyle, Brandt, Paul, Caleb and Jared who are all aspiring Mechanical Engineers. After a brainstorm session, we all agreed upon a system where for our robot to perform, bottling beer. Larger beer companies use full automation, so our system was geared towards the smaller microbrew companies and is adaptable to the size of the bottle or the batch of beer. The process includes delivering bottles, simulating cleaning and sanitization, filling the bottles, placing a cap, securing the cap and then sending the bottle on to be packaged. All of this is done with one robot programmed to repeat the process without failure 6 times. Each step required teamwork and synchronization in order for our goal to be attained. The project was successful after approximately a month of work, and a 50-page essay was written describing everything in detail. Our presentation involves a 5-minute video of the robot in action.
Balance Performance Differences Between Older Men and Women Using Four Outcome Measures
Kyle Prescott
Kimberly Cleary, Physical Therapy

Falls impose significant health problems for many aged persons, with more than 1 in 3 adults experiencing a fall annually. Identifying those at risk for falling is an important first step toward preventing falls among older adults. Previous studies suggest that there may be gender differences in balance confidence and fall incidence, with some disagreement on the latter. This study presents and compares the balance performance scores of 14 men and 36 women from a senior living community aged 65 years and older (x=83.6 years). Four well-established balance performance outcome measures were used in this study: Berg Balance Scale, Tinneti, Four Square Step Test, and Timed Up and Go.

Of towers and things...
Matthew Preston
Chris Tyllia, Art

Work is a ceramic sculpture conveying the difficulties of the creative process.

Delimitating Spokane’s Central Business District: An Urban Field Research Study, Part III
Aaron Qualls, Bryan Esmeralda, Kate Cornwall, Jasmine Maxey
Dick Winchell, Urban and Regional Planning

A Central Business District (CBD) can be defined as the commercial and cultural center of a city. Planning Methods II students applied a field research model by Lounsbury and Aldrich (1986) Introduction to Geographic Field Methods and Techniques. This model uses field research to delimit a contiguous CBD for central cities between 100,000 to one million people using land use and building height data. Students collected and analyzed data on land use and building height to delimit the CBD within the City of Spokane. This research is of great value for planners to understand the dynamics of the CBD. Part III delimitates the CBD using standard land use and density from the model to identify which blocks are contiguous to the CBD.
A Disparity of Funding: Indian Reservation Roads Maintenance  
Sherwin Racehorse  
Dick Winchell, Urban and Regional Planning

Long-term inadequate maintenance funding for the Indian Reservation Roads program has resulted in a national problem of dilapidated Indian roads. A growing number of “crumbling” roadways exist, including an escalating backlog of reconstruct and pave road projects, resulting in a national highway safety problem on Indian Reservations. Increased maintenance appropriations through the Department of Interior to the Bureau of Indian Affairs, must occur to improve Reservation roads and to protect human lives. The scope of this research project is to determine the history of appropriations for IRR maintenance, analyze overall conditions of Reservation roadways, research BIA policies, evaluate and compare State versus Federal/Tribal appropriations, and identify recent changes to the Surface Transportation programs and Regulations impacting the IRR maintenance program. This academic research project proposes to evaluate the critical issues of the IRR maintenance program, providing strategic alternatives and a preferred alternative for Federal and Tribal decisions leading to implementation.

History of Spokane Parks: Part of the Spokane Historical Project  
Tracy Rebstock  
Larry Cebula, History

The history of Spokane’s parks starts in 1891 and runs through the present. This history includes an amusement park, a hippie camp, natural springs, Mount Spokane, Riverside Park, Manito Zoo, and the Washington Motion Picture Company. In 1913 Spokane had more green space per capita than Portland, OR. How has the green space fared during its history, how have parks changed, and what is left of this history for those visiting these parks today? Through research, Spokane’s rich history has been uncovered and made available through the Android and iPhone for Spokane visitors and residents to enjoy.

A Study of the CIA Clinic Security Guidelines  
Lynne Reeder, Molly Yin, April May  
Atsushi Inoue, Health Services Administration

The three fields of computer security, information security, and information assurance have three main issues: protecting the confidentiality, integrity, and accessibility of information—these concepts are also known as CIA. We have developed security guidelines for a mock medical clinic based on the ISO 27002 standards by creating two different security policies. The first is the CIA Clinic Security Policy for Patient Data Access on Personal Computers and Devices. This agreement covers the requirements and responsibilities of providers accessing patient data while inside and outside the office for the purpose of treatment. We also created the CIA Clinic Policy for Information Systems Acquisition, Development and Maintenance. This lists the steps that the CIA Clinic will take when dealing with the acquisition, development and maintenance of information systems in order to ensure that future development continues to meet and exceed the strength of protection in previous systems.
Disaster: Lessons from the Past for Disaster Recovery in the Present
Ian Reeves
Patricia Chantrill, Communication Studies

The closeness of our global community means that disasters affect all of us. This means that we have the responsibility to come to a better understanding of disasters and how to respond to them. The fire disaster that struck Spokane in 1889 is a perfect opportunity to do just that. Although the community was gutted by the fire, Spokane was able to rebound from the disaster with amazing resilience. What are the factors that contributed to such a positive recovery, and how might we apply the lesson from this disaster to better respond to others?

Being-in-the-World
Nita Rektor
Kevin Decker, Philosophy

Since the inception of the science of marketing, marketing theory implemented through advertising has become the most efficient means by which information is communicated to the masses. A continuous stream of the expectations and demands of facticity (i.e. being-with-others) bombard every individual incessantly in an attempt to sell products, ideas, or philosophies. Previously limited by the technology available, the means utilized to persuade the individual seems inexhaustible. Unrelenting tweets, downloads, and text messages saturate each of us in an ever-pressing weight of need, desire, and judgment. Consequently, marketing theory and thereby advertising permeate our very way of ‘being-in-the-world’ by defining our behaviors and desires through the use of symbols and logos intended to penetrate the very essence of ‘being human.’ This incessant saturation intentionally limits the freedom and the possibilities of the individual ‘existential being’ thereby altering the very essence of ‘being human’ as a means of control and profit-making.

Discriminated Rebel? The Effects of Discrimination on Reactance
Tyson Rice, Katie Higgins
Amani El-Alayli, Psychology

Psychological reactance is a phenomenon wherein a person experiences a negative emotional reaction to outside pressures to conform. We predicted that being discriminated against may cause a psychological reactance response. College student participants were asked to recall an experience where they were personally discriminated against, or an experience of witnessing a member of a different group be discriminated against. It was hypothesized that the participants would experience the most state reactance in the condition in which they were personally discriminated against.
Code-Meshing Pedegogy: A Rhetorical Focus
April Ridgeway
Molly Johnson, English - Technical Communication
Justin Young, English

Within the multicultural and multilingual face of modern academia, it is generally accepted that individual students’ ideologies, backgrounds, and linguistic experiences need to be acknowledged as important contributors to the meaning making process. Specifically, a new lens has been focused on pluralistic linguistic expression in student writing via code-meshing. With this new focus on enfranchising student voice by meshing different languages, codes, genres, and registers within a document, there arises a need to examine pedagogical best practices in regards to code-meshing within the classroom. This presentation will review the historical approaches to language differences in composition, delineate the differences between code-meshing and the earlier practice of code-switching, and present a rudimentary taxonomy for teaching deliberate code-meshing based on a rhetorical analysis of a code-meshed primary text.

Rhetoric of the Disaster Genre
Daniel Roemer
Patricia Chantrill, Communication Studies

For my paper, I looked at the three films *Independence Day*, *Dante’s Peak*, and *2012* through the lens of both genre and dramatistic criticism. Through genre criticism, I sought to find similar patterns within the three films and then looked specifically at what these similarities said about the genre of film. I discovered similarities such as the conspiracy theorist archetype, the overly logical and often cold-hearted adversary to the hero, the hero’s search love, and government as the savior of mankind. I observed these films through Kenneth Burke’s dramatistic theory. I look at his concepts to describe Bill Pullman’s character in *Independence Day* as he speaks to unite the world to defeat an enemy. I examine how disaster films pacify the viewer and make us believe government will step in and save us. It paints the picture of government as a beatific functionary akin to a fairy godmother in a fantasy story. I conclude by arguing it as pivotal to internalize the difference between our reality and the media’s version of reality.

Ideology in *A History of Violence*
John Rogers
Pete Porter, Film

*A History of Violence* (Cronenberg, 2005) supports the dominant ideology, according to the film theory of Robin Wood because of ideologies related to "capitalism, the work ethic, marriage, nature as agrarianism, the rosebud syndrome, the ideal male, the ideal female, and the shadow male."
Modeling the Caucus Effect at the County Level: Jesse Jackson and South Carolina in the 1988 Presidential Primaries
Ryne Rohla
Kevin Pirch, Government

Study of the electoral mechanics behind presidential nominee selection remains an underdeveloped field in the literature, despite its large importance on American politics. Most studies focus on polling or macro-level choice determinants, while those addressing the coalitions and voting patterns for candidates often stay at the state level. Differences in support patterns for candidates between primaries and caucuses require a deeper level of analysis than such studies provide. Using a regression analysis of county-level voting and demographic data, the dynamics behind support for Jesse Jackson’s candidacy in the 1988 South Carolina caucus are compared to those in the North Carolina and Alabama primaries. Results indicate that the caucus process had several key effects on Jackson’s support: 1) it partially broke down the connection with racial factors driving the patterns in NC and AL, 2) it shifted influence to wealthier black voters with advanced education, 3) it decreased the importance of dense population centers, and 4) it decreased the base support level for Jackson.

Human Powered Paper Vehicle—by The Recyclers
Frederick Rollins, Tonya Gaddy, Joseph Cluever, Daryl Smith, Cody Gary
Martin Weiser, Engineering and Design
Awlad Hossain, Engineering and Design

Our team developed a two-wheel type cycle design that would emulate all the features of an angled axis bicycle with side supports for EWU’s Human Powered Paper Vehicle (HPPV) competition. We chose this particular design because upon viewing and reviewing previous HPPV designs, we determined the bicycle design had the best results. Properly developing a paper bicycle in accordance with HPPV weight and density rules was a challenging feat. Our team had to go back to the drawing board on many aspects of our vehicle, from overall design, to material that could be used. Our competition bicycle is composed of corrugated cardboard sheets acting as the main frame for the bike and as side supports for the back wheel. For the front axle, we chose a fork design with a manual force activated brake and inserted rubber balls to act as suspension. We believe our bicycle is designed for the ramps, turns, and differences in weight; challenges that will be associated with the upcoming competition. Our overall desire for this particular design is to use it to carry us to victory in this competition.
Animal-Assisted Therapy with Children in Grief: Implications for Occupational Therapy
Robin Rowland, Kelsey Vanderhoof, Taci VanLeuven, Kelsie Kilpatrick, Jennifer Williams, Alyse Kolstad
Elizabeth Kohler, Occupational Therapy
Diane Norell, Occupational Therapy

This was a 6-week long qualitative study with a phenomenological design. Events and subjective experiences of children, adolescents, bereavement counselors and therapy dog handlers were described following the first-time inclusion of dog teams in a hospice grief workshop. Researchers obtained data through direct observation, journals and semi-structured interviews with the children, bereavement counselors and therapy dog handlers. The researchers identified three taxonomies with reoccurring themes. The identified taxonomies included the events and experiences of children, counselors and dog teams. The recurrent themes were identified as interacting with the dog, subjective emotional experiences and the dog’s capacity to initiate communication and facilitate relationships. Conclusions extracted from the themes provide implications for future grief workshops and occupational therapy practice. Findings suggest that dogs used as a modality during grief workshops are beneficial in a variety of ways, including facilitating the therapeutic relationship between children and counselors.

Impact of a Girl’s Relationship with Her Father During Her Childhood on Her Choice of Intimate Partners in Her Adult Life
Liliya Rudneva
Dorothy Munson, Counseling, Educational and Developmental Psychology

In an effort to understand intimate partner violence, research has mainly focused on the effects of witnessing or experiencing parental abuse in childhood. In the literature this is the most accepted explanation for transmission of violence to the next generation. There has been less attention given to the effects of a girl’s relationship with her father in childhood and the subsequent impact on her choice of intimate partners later in life. Over the past three decades, research has revealed several trends that have been identified concerning the effects of unhealthy paternal relations with daughters. These include daughters’ development of impulsive aggressive personality styles, accepting attitudes toward aggression, learned gender and sex roles, and inadequate communication patterns. The purpose of this comprehensive literature review is to more fully explore and identify factors that are essential to understanding this socially and developmentally significant topic.

International Standard for Technology in Teaching E-Portfolio
Jason Sanger
Kevin Pyatt, Education

The purpose of this portfolio is to present various created artifacts that align with the National Educational Technology Standards (NETS) for teachers. Each artifact demonstrates various uses of educational technology, ranging from web 2.0 tools to stand-alone computer programs that enhance the learning experience. Technology integration into the curriculum has become an important factor in reaching the learners of the Digital Native generation, along with their adult counterparts. Teachers and instructors have access to a multitude of technology tools that can be used to supplement instruction. Educational technology is a wonderful set of tools for instructors to possess, but should not replace them by any means.
**Thrill Me: The Leopold & Loeb Story, Scene 1**

Justin Schlabach, Blaine Nicholls, Cody Bray  
*Sara Goff, Theatre*  
*Jeffrey Sanders, Theatre*

This scene is located in the musical *Thrill Me: The Leopold & Loeb Story* by Stephen Dolginoff. The play is an exploration of the relationship between Nathan Leopold and Richard Loeb, the Chicago “Thrill Killers” of 1924. I am directing the play in its entirety for my Senior Capstone Project. This scene is the first scene in the play offering a good introduction to the story by giving a hint of the past relationship between the two characters as well as anticipation for how the relationship will continue to evolve in the play.

**Irene Ryan Scenes for the American College Theatre Festival**

Justin Schlabach, Christopher Rounsville  
*Sara Goff, Theatre*  
*Jeffrey Sanders, Theatre*

These scenes are ones my acting partner, Christopher Rounsville, and I performed at the American College Theatre Festival in February. They were for the Irene Ryan’s Acting Competition from which I was nominated because of my performance in EWU Theatre’s production of *The Things They Carried*. We perform a total of three scenes from three different plays: *Never the Sinner* by John Logan, *The Portrait of the Virgin Mary Feeding the Dinosaurs* by Jeff Goode, and *The Rivals* by Richard Brinsley Sheridan. All the scenes are performed in quick succession.

**Audition Package from Theatre 412 (Acting: The Profession)**

Justin Schlabach, Christopher Rounsville  
*Jeffrey Sanders, Theatre*

This is an audition package that was created for the class Theatre 412 (Acting: The Profession). It consists of two monologues: one from *Corpus Christi* by Terrence McNally and the other from *A Very Common Procedure* by Courtney Baron. The purpose of this package is to use it to present at auditions when I begin my search for professional work after I graduate.

**Globalizations and The State**

Austin Schlief  
*Majid Sharifi, International Affairs*

The obsessive media coverage of the Arab Spring phenomenon has documented the political turmoil that has spread across the Middle East recently. Bahrain, however, is a country that has experienced such political insecurity since its independence. Bahrain illustrates at least three concepts that illustrate globalizations effects on the international system. These concepts include globalization’s weakening of the state, intensification of societal disjuncture, and the igniting of the searches for imagined communities by groups resistant to globalization’s effects. This poses a threat to human security, particularly political security. In order to understand this threat, recognition must be given to the new realities of the current world system along with acknowledgment to changes that require a reevaluation of international relations theories and thus new thinking in foreign policy-making in order to prepare with coming conflicts.
Camcorder Manuals
Carl Schmidt
*Molly Johnson, English - Technical Communication*

As a technical communications major, I completed a 200-hour internship with the Multimedia Activities Resource Services (MARS) lab. One of the tasks given to me by my supervisor, Lance Walker, was to create a user manual for the digital camcorders available for checkout at JFK Library. The primary objective of creating a manual was to supply the students and faculty with a resource for converting the .MTS video file type into a more usable .MP4 file. The project consisted of researching camcorder functions and procedures, writing procedures for an EWU student/faculty audience, designing a manual to JFK Library specifications, testing the usability of the revised manual, and printing copies of the manual to JFK Library specifications. The checkout desk at JFK Library requested 22 black and white manuals, and two color manuals. A black and white copy would be included in each of the camera bags plus there would be additional replacement copies. The two color manuals would be kept for reference at the checkout desk.

Toxicity of Zinc to Freshwater Clams
Cody Schoonover, Jessica Wieker
*Joanna Joyner-Matos, Biology*

We harvested freshwater clam (*Sphaerium*) populations at an unpolluted site (Turnbull National Wildlife Refuge, TNWR) and measured the effects of heavy metal exposure on clams. Clams were collected year-round in lotic and lentic habitats and found on sandy substrates and aquatic vegetation. These clams internally brood their young and release shelled juveniles; clams containing brood were found year-round. The number of larvae per brood was positively related to adult shell size. Clams (n = 20) were exposed to dissolved zinc ranging from 25-1000 ug/L. Time to 100% mortality for clams was negatively related to zinc dose (Spearman’s rank correlation, rs=−0.803, p<0.05). Locomotion, brood ejection, siphon extension, and valve gaping also followed dose-response patterns. These results indicate that clams from TNWR consistently brood and are susceptible to zinc, suggesting that we can study the effects of heavy metal pollution on clam reproduction in this population.

Microbial Stream Ecology of Latah Creek Watershed, WA
Cristine Schucker
*Camille McNeely, Biology*

In aquatic systems, microbes provide decomposition and recycling of nutrients, and contribute to food webs. Previous studies have shown that microbes are affected by environmental factors which alter their community structures, distribution and abundance. High nitrogen (N) concentration can be detrimental to ecosystems, and strong correlations have been observed between NH4+ levels and the distributions and abundance of N cycling microbes. Streams and rivers are important pathways for N in all forms and understanding how microbes vary in response to N additions is vital. The Latah Creek watershed in WA drains urban, forested and agricultural land. Agriculture has been shown to contribute excess N into streams. I have sampled sediment from tributary streams of Latah Creek with varying levels of agriculture in their drainages, and I will use molecular techniques to assess microbial community compositions and quantify nitrification gene abundance. I predict that the overall diversity will decrease while nitrification gene abundance will increase with increasing agricultural land use.
Hatshepsut: The Woman Who Became Pharaoh
Jessica Schwartz
Laura Phillips, History

This paper discusses the female pharaoh Hatshepsut and how she legitimized her right to the throne by conforming to, and slightly altering, the customs of male rulers in ancient Egypt. Hatshepsut was a ruler of the illustrious Eighteenth Dynasty; her reign has been dated between 1479-1458 BCE. Roughly twenty years on the throne was a major feat for any pharaoh. Even more impressive is that as a woman, in the Egyptian custom of her time, Hatshepsut should not have been able to be pharaoh in her own right, when the throne was already occupied by a male heir. This paper will show that although Hatshepsut was depicted as a man, she never once concealed the fact she was a woman ruler. She went to great lengths to establish her right to the throne as the daughter and heir of Thutmose I, had created a false history of her co-regency with her father, and depicted her divine birth as a king, which established her kingly link to the god Amun who was the mythological father of all pharaohs.

The Supposed Other: The Orientalization of Women of Color
Kadija Sesay
Kevin Decker, Philosophy
Mimi Marinucci, Women’s and Gender Studies

Putting feminist theory and philosophy together allows for a critical view of the ontological depiction of women of color. The research methodology utilized for this project is analyzed from a post-positivist and post-colonist perspective. The purpose of this collaboration is to further address the manner in which Orientalism and hegemony are utilized to further subjugate women of color specifically. The othered body of women of color is perceived to be a lack of the male and thus devalued. Elements of Western society that perpetuate this equivocation further undermine the role and ability of women of color within the framework of patriarchy. By exhibiting how Western expansion, imperialism and colonialism continue to devalue and denigrate women of color, one is able to transcend their subjugated state of being and knowing. “I’m a victim brother. I’m a victim of 400 years of conditioning. The man has programmed my conditioning. Even my conditioning has been conditioned!” – Chameleon Street

Are Individuals More Positively Biased Toward Themselves or Their Relationship Partners?
Nicole Sestrap, Shannon Shiells
Amani El-Alayli, Psychology

Previous research illustrates individuals’ motivations towards self-enhancement and relationship partner-enhancement, but has not compared the relative strength of those motivations. Our research sought to examine which motivation is stronger by seeing whether people view themselves or their relationship partner more favorably when pressed to compare. Participants were 62 Eastern Washington University students currently in a relationship. Participants completed anonymous questionnaires that contained a list of positive and negative personality traits. They rated the traits on a scale from 1 (My partner possesses this trait more) to 7 (I possess this trait more), with 4 referring to equal trait possession. Results indicated a tendency to view oneself in a more positive light than one’s own partner with regard to positive, but not negative, personality traits.
Athletic Training Around the World
Heather Sevier, Elizabeth Reinstien, Yoshi Tsumekawa, Jennifer Dawson, Katelyn Hill, Hiro Mikami
Garth Babcock, Physical Education, Health and Recreation

Sport is a phenomenon that is continuing to grow around the world. Our research focus was to identify how medical professionals are trained and credentialed, and what they consider to be their best evaluation and treatment techniques throughout the world. This data is important because it is necessary to have a better cultural perspective of the profession. The underlying questions are: What is it like to work as an “athletic trainer” in other countries, and how can an athletic trainer from the United States prepare themselves for taking care of their athletes in foreign countries?

Irene versus Aspasia: Competing World Views in Samuel Johnson’s Irene
Andrew Seymore
Matthew Binney, English

Much has been said about Samuel Johnson and his works, yet his only play, Irene, has received relatively little critical attention. The majority of Irene’s critics argue that Aspasia is the heroine of Johnson’s play. These critics use this argument to make claims about Johnson’s life as well as to make claims about the state of eighteenth-century drama and politics. In my essay, I seek to examine only the play itself in order to clarify the claims that can be made about Johnson’s life and times. Specifically, I will argue that Irene is the true heroine of Johnson’s play, because the play is too general to be politicized.

American Red Cross Grant
Jessica Shipp
Molly Johnson, English - Technical Communication

In pursuing my bachelor’s degree in technical communication, I was enrolled in grant writing. Grant writing is an important part of technical communication. For our service-learning project my team and I partnered with the American Red Cross of the Inland Northwest to write a grant and find a source to further fund their Reconnection Workshops. The American Red Cross provides these workshops to help returning veterans integrate back into the community. The funding would be used for advertisements to broaden the reach of the workshops along with providing incentives for couples that attend. Our group compiled and produced this grant for the American Red Cross after meeting with their director and interviewing their leader in the service to the Armed Forces. Skills I learned throughout the grant writing process include interviewing, how to work with a client, researching available funding sources in multiple databases, compiling statistics and creating visuals to demonstrate our findings. I believe these are valuable skills that I will be able to apply to numerous jobs in the workforce.
To Brand or Not To Brand
Ethan Silvieus
Theresa Martin, Psychology

The object of this study was to determine if brand logos/labels have an influence on consumers’ taste preferences. A total of seventy-six undergraduate students of Eastern Washington University took part in a within-subject factorial design study that involved tasting a flavor of cola that was poured from three differently labeled cola bottles. In fact all the colas were a generic store brand cola. Participants rated the colas in terms of sweetness, after-taste, and liking of the cola. “Pepsi” was rated as the favorite (48%) followed by “Coke” (38.7%) and then Western Family (13.3%). Colas also differed significantly in terms of sweetness and after-taste. The results of the study supported the hypothesis that brand logos/labels do have an influence on consumer perception.

Effect of Contraceptive Steroids on Blood Pressure and the Renin Aldosterone System in Rats
Abrar Sindi
Karen Carlberg, Biology

Oral contraceptives (OC) are used by women worldwide for the purpose of birth control. OCs contain a combination of estrogen and progestin or progestin alone. The use of OC has been associated with adverse effects in women, such as an increase in blood pressure and an increase of renin/aldosterone (R/A) ratio, which participates in the regulation of blood pressure. Interestingly, the OC component that is responsible for this increase in blood pressure and the R/A ratio has not been clearly identified. Some studies suggest that estrogen by itself increases blood pressure and the R/A ratio, while others suggest that progestin is the one responsible. Therefore, I will use rats to study the effect of a widely used synthetic estrogen and two currently used progestins to determine if one hormone will increase blood pressure or R/A ratio more than the others, or if a combination of the estrogen and progestin are necessary for this increase.

Reliability and Internal Consistency of the Activities-specific Balance Confidence Scale in Older Adults
Elena Skornyakov
Kimberly Cleary, Physical Therapy

Poor balance confidence in older adults can predict injurious falls; therefore, it is important to assess balance confidence. To do so accurately, healthcare professionals must have access to an instrument with good reliability and strong internal consistency. The purpose of this study was to use the Activities-specific Balance Confidence Scale (ABC) to measure balance confidence in community-dwelling older adults, and to evaluate the instrument’s test-retest reliability and internal consistency. Forty-four people aged 65 and older completed the ABC on two separate testing days. Test-retest reliability and internal consistency were calculated using a statistical software program. Results revealed that the ABC has good reliability and strong internal consistency. Reporting this scale’s psychometric properties may influence health care professionals to use the tool more frequently and confidently.
Difference in Balance Performance Between Older Adults with and without a History of Falls
Elena Skornyakov
Kimberly Cleary, Physical Therapy

Falls are a major health problem for people aged 65 and older. Fall-related injuries and subsequent decline in function are significant challenges to independence, and the associated healthcare costs present an economic burden as well. Identifying people at risk for falls is an important step in reducing fall risk. In addition to fall history, an individual’s balance performance is often considered when assessing fall risk. This presentation compares balance performance scores between fallers (n=17) and non-fallers (n=29) aged 65 years and older (x=83.6 years). Subjects lived independently in the community and were able to walk within their homes without help from another person. Four well-established balance performance outcome measures were used in this study: Berg Balance Scale, Tinneti, Four Square Step Test, and Timed Up and Go.

Risk Factors Associated with Sternal Complications in Patients Following Open Heart Surgery and Implications for Activity Precautions
Danielle Slaughter
Tanya LaPier, Physical Therapy
Megan Chatellier, Physical Therapy

The purpose of this study was to identify risk factors associated with sternal complications in patients’ status post median sternotomy. Number of Subjects: A systematic review with a total of 18 studies from 1996 to present. Materials / Methods: A review of literature was conducted using the search terms “median sternotomy complications” and “sternal dehiscence.” Results: 1° risk factors included: high BMI, COPD, bilateral IMA grafting, DM, rethoracotomy, high blood loss, smoking, prolonged surgical time, PVD, and females with large breast size. 2° risk factors included: decreased sternal thickness, longer ICU length of stay, staple use for skin closure, impaired renal function. Conclusions: Many variables associated with sternal wound complications were identified in this study and should be considered when determining appropriate activity for patients.

Free Labor versus Slavery: The Profit Game
Christopher Smith
Kelley Cullen, Economics

In this paper, the author will examine the economics of slavery to include the similarities between slave labor and wage labor. The use of wage laborers is compared to slavery by analyzing production and agricultural work, costs, incentives, and hours of work. A profit analysis of using slavery over hired laborers will be completed using cotton, cloth, and other desired exports as a foundation for the need for free labor or slavery. It is necessary to look at the purchasing cost of the slave and also the ongoing costs of housing the slave, nourishment, and the clothing rationed to the slave and their families. This must be contrasted with how long the contractor or slaveholder needs the respective parties’ help. Ultimately, using formulas from some primary sources, the author demonstrates the hourly, yearly, and estimated lifetime wages of the free laborers and compares those numbers to the cost of keeping a slave.
Misperceptions Between Street Kids and Business Owners/Managers in Downtown Spokane, Washington
Brina Smith
Sarah Keller, Geography and Anthropology

Recently, I have observed business managers in Spokane in conflict with Street Kids loitering outside of their businesses. The managers continually berate the Kids for their behavior outside of their establishments because they may feel the teens threaten their customers and profits. From observing the Street Kids, it appears that although most panhandle, smoke, and engage in horseplay in the vicinity of the building, the actions of the Kids do not appear to be noticeably threatening to anyone outside their group. The research examines these conflicting relationships. It investigates what each group believes is the cause of the conflict, or “misperception,” between the two groups. Semi-structured interviews were conducted with up to twenty subjects, divided into two categories: Street Kids and business managers. The purpose of engaging both Street Kids and business managers was to investigate the perspective of each side of the conflict. These various data did, in fact, reveal numerous misperceptions on both sides of the conflict as well as provide suggestions for their resolution.

My Dog Media
John Smith, Sam SmithReams, Ian Zieg, Jayme Gibson
Tom Capaul, Computer Science

Have you noticed the number of devices that can be connected to a home network? Many traditional home electronic multimedia media devices now connect to a network, such as televisions, receivers, and game consoles. This has opened up the possibility for streaming media across a home network. Our application, MyDogMedia, runs on the Android platform and allows for the control of media playback on these devices across your home network, as well as on the Android device itself. Also, media that is on the Android device running our application can be accessed on the network. We utilize the UPnP standard that was developed to accommodate and simplify network communication among such devices.

Nature Imagery and Characterization in a Steinbeck Story
Jacqueline Smithley
Paul Lindholdt, English

This scholarly essay examines nature imagery as a means characterization in Steinbeck’s short story “The Chrysanthemums.” Steinbeck enhances Elisa’s character through nature imagery and symbolism. The repetition of an image is a unifying device, something that signals change or development. In the examination of the main character, the repetition of images mirrors the character herself. The repetition is consistent and insistent enough for the reader to grasp that there is something more than just the denotation of the words. By the end of Steinbeck’s story, the reader learns that the dog is not just a pet and a chrysanthemum is not just a flower. There is more meaning behind each of their definitions, which is why they resonate so vividly with the audience.
Building Hope: A Proposal for Vocational Education
Nick Spanjer
*Molly Johnson, English - Technical Communication*

The Union Gospel Mission is an organization in Spokane, WA, dedicated to reaching the poor and homeless of the local community in an attempt to restore them to be contributing members of society. As part of the organization’s restoration process, they support their residents as they transition back into the workplace. In my ENGL 407 Proposal Writing class, my group and I constructed a proposal in an attempt to obtain funding for $11,550 to update the computers in the organization’s Vocational Education center. Our group developed a four-step plan that included identifying the necessary hardware and software, developing a training program, and identifying network and curriculum updates. To familiarize ourselves with the organization, we worked with the staff writer, who introduced us to some possible funders and how successful proposals in the organization’s past were constructed. I am producing a poster that details the completion of the proposal and the most challenging, yet fulfilling group work of my college career.

Welcome Home: A Devised Theatre Project
Rebecca Spining, Melissa Gren, Joel Chiswell, Elizabeth Carlson, Cody Bray, Bryn Butler
*Sara Goff, Theatre*

This Devised work was an original project for our winter Directing class. It is a 20-minute piece composed of music, silence, lighting, specialized movement, text from interviews, narrative from our group, and text from the works of Walt Whitman.

The Historical Significance of F.W. Murnau’s *Sunrise* (1927)
Joseph Stageberg
*Pete Porter, Film*

Friedrich Wilhelm Murnau’s *Sunrise* is a historically significant film, which has influenced international cinema by means of its cinematography, film as a medium of art, and cinema’s transition to sound. *Sunrise* presents the simple narrative of a country couple whose marriage is tested by a seductive Woman from the City (Margaret Livingston). The film is exceptional in that it won three Academy Awards, including Best Actress (Janet Gaynor), Best Cinematography (Charles Roshner, Karl Struss), and for the first and only time, Best Picture: Most Unique and Artistic Production (Fox). With *Sunrise*, Murnau exhibits his artistic passion by producing a film that is as innovative and influential as the German director himself.
The Determination of Riboflavin in Vitamin Tablets by Fluorescence Spectroscopy
Ryan Stahler
Wes Steiner, Chemistry and Biochemistry

Fluorescence spectroscopy was used in the determination of Riboflavin (Vitamin B-2) mass content in a vitamin tablet supplement. Riboflavin is known to exhibit nearly constant fluorescence from pH 4-8, but is nearly 100% quenched if the pH is raised to 10, or if the molecule is reduced. Consequently, fluorescence measurements of riboflavin are prone to errors resulting from environmental and matrix influences on fluorescence intensity. These matrix effects can be difficult to correct for in quantitative analyses by direct measurement of their influences on fluorescence intensity. Thus, in this study, an analysis of Riboflavin in a vitamin tablet using a method of constant volume standard addition was used to construct a calibration curve with which the concentration of Riboflavin could be calculated. Preliminary results indicate the vitamin contained 66.7±0.13 mg/tablet of Riboflavin yielding a relative error of 33.3% when compared to the labeled value of 100.0 mg/tablet Riboflavin.

Factors Affecting Foraging Activity of Bats Over Wetlands
Sarah Stankovich
Margaret O’Connell, Biology

Foraging animals face decisions about when and where to forage, and these decisions are mediated in part by prey availability. For temperate insectivorous bats, prey availability fluctuates temporally as well as spatially. Wetlands are an important component of bat foraging habitat because they contain high abundances of insects. However, insect densities are typically patchy in distribution because species exhibit differential flushes in response to biotic (e.g., species phenology, macrophyte communities) and abiotic (e.g., water depth and temperature, hydroperiod) factors. Turnbull National Wildlife Refuge, with over 180 wetlands and 12 bat species (including several Washington priority species), provides an ideal location to examine what biotic and abiotic factors affect bat foraging over wetlands. Through this evaluation, my study will help identify quality habitat for conservation purposes.

Witches’ Black Sabbaths and other Perversions of the Sacraments in Early Modern Britain
Monica Stenzel
Ann Le Bar, History

This paper will compare the maleficia of fictive witches of seventeenth-century England to the seven sacraments of the Catholic Church. Scholar Gary Wills has proposed that following the Gunpowder Plot of 1605, English plays portrayed witches with distinctive Catholic elements. Brian Levack has proposed a “Cumulative Concept of Witchcraft” and the assertion that the oft-referenced witch-crime of cannibalistic infanticide was perceived as a perversion of the eucharist. By combining these ideas, I propose that all seven sacraments of the Catholic Church are represented in an ‘inverted’ or evil version in English popular culture and that this helped to define Catholics in the newly Protestant country.
This painting gives light to the mind of Nicholas and those creatures around him.

**Extraction Efficiency Analysis of a Common DNA Extraction Protocol When Applied to *Apis melifera* Mid-gut Tissue and Bacterial Consortia**

Amanda Stewart  
Institute of Science and Technology at North Central High School  
*Randy James, Biology*  
*Steve Fisk, Anthropology*

The quantification of bacterial consortia from a variety of materials including soils and digestive material is challenging due to many bacteria refusing to be cultured outside of their consortia communities. A novel approach to quantifying soil and gut bacteria is the total DNA extraction and quantification from sample materials. Knowledge of the extraction efficiency of the chosen extraction protocol is critical in the quantification of bacterial DNA. This research reports on the extraction efficiency of Qiagen DNeasy Tissue protocols on mid-gut Honey bee bacterial consortia.

**The Effects of Acute Fatigue on Bilateral Symmetry of Muscle Activation Onset During a Landing Task**

Jessica Stimmel  
*Jeni McNeal, Physical Education, Health and Recreation*

A foundational assumption used in many biomechanical analyses of bilateral movements such as jumping, is that symmetry exists in how the body executes such movements. However, humans have been shown to demonstrate functional asymmetries that have been suggested to contribute to injury risk. The purpose of this study was to determine if asymmetry exists in muscle activation onset of lower extremity muscles during a landing task, and to examine if there is an effect of fatigue on asymmetry. Sixteen subjects completed 3 trials of drop landings before and after a fatiguing protocol. Surface electromyography recorded muscle activity bilaterally from vastus lateralis, gastrocnemius, and biceps femoris. Results indicated there was significant (p < 0.05) asymmetry in muscle activation onset; however, fatigue had no significant (p > 0.05) impact on the symmetry of muscle activation onset. The degree of asymmetry was not different across muscle. Further studies should explore the origin of onset asymmetry and whether such asymmetry could contribute to injuries associated with landing tasks.
A New Way of Telling Stories
Al Stover
Jamie Neely, Journalism

With the advancement of technology and the internet, and the decline of newspapers in the last few years, publications are putting more of an emphasis on using video, audio, photographs, and title slides as an alternative way to tell stories. Colleges are also using multimedia. The Soul of Athens project, created by the School of Visual Communication by Ohio University, tells stories with multimedia. The Easterner has created its own brand of multimedia content, using audio recordings, photo slideshows, and video productions that give our readers a different way to look at stories that appear in the newspaper and on the website. These multimedia pieces are created by students who spend time editing audio with programs like Garage Band, touching up photographs with Photoshop and cutting video with iMovie to put these pieces together. Having a knowledge of how to create multimedia can also help students in the job market after they graduate. Professional publications are looking for reporters who have a base knowledge of how to put together multimedia.

The Use of Diagnostic Bones to Identify Bull Trout (Salvelinus confluentus) in Piscivore Diets
Aaron Stroud
Allan Scholz, Biology

Diagnostic bones are often used to identify fish in piscivore diets. Bull trout (Salvelinus confluentus) are a threatened species, with limited samples available for study. A sample of 75 bull trout ranging 32 to 544 mm in length was dissected to gather diagnostic bones. To discern bull trout from other salmonids, a bone keys was built with species-specific characteristics from diagnostic bones. Measurements from diagnostic bones were regressed and linear regressions explained 90% of the variability in the dentary, cleithra, preopercle, opercle, and pharyngeal arch. Cleithra provided the most significant correlation TL= -8.892+103.570*(Cleithra A) (r² = 0.98). A TL to weight regression was created for weight estimation. This information will improve piscivory assessment and help to identify bull trout predation. Research was conducted by Aaron Stroud and Michael Vaughan.

The Inevitability of Satan: Choice, Reason, and Free Will in John Milton’s Paradise Lost
Christopher Stuck
Matthew Binney, English

In Paradise Lost, John Milton initially constructs a hierarchy in Heaven based upon order of creation, mimicking historical royal hierarchies based upon birth, clearly describing Christ as innately noble and deserving. Later, explaining to Christ the reason for Christ’s position as second only to God, God says that Christ’s place is based upon merit, not innate characteristics imbued upon Christ by God. Due to this contradictory or changing nature of Heaven’s hierarchy, it is inevitable and necessary for Satan to rebel against the rule of God and fall from Heaven. Through researching Milton’s political works and applying them to Paradise Lost, I plan detail the complicated nature of Satan’s fall and prove that it was inevitable and necessary, complicating or even contradicting the presented nature of choice, reason, and free will within the text.
Infrastructure and the Gender Gap in Bicycling: A Comparison Between Seattle, Spokane, Portland and Minneapolis

Michelle Swanson
Bill Kelley, Urban and Regional Planning
Fred Hurand, Urban and Regional Planning

Women represent about 23% of bicyclists in the United States, which is uniquely low compared to other developed countries. Women are more risk-averse and show a marked preference for facilities segregated from vehicles. Women’s transportation patterns are also different, most notably in the number of serve passenger trips performed. I conducted a geospatial analysis of Seattle, Spokane, Portland, and Minneapolis, mapping where women live, bicycle facilities women prefer, and places women go: major employers, schools, daycares, grocery stores, medical facilities. The findings indicate that Portland has the most effective bicycle infrastructure to meet women’s transportation needs, and the data indicate that women represent about 35% of bicyclists in Portland. Because the increase in bicyclists in the last decade has been exclusively male, municipalities that wish to boost their numbers of urban bicyclists must build infrastructure that appeals to women.

Complexity of “Saint Marie” Lazarre

Krista Sweeney
Paul Lindholdt, English

My presentation is an analysis of the motives of the protagonist Marie Lazarre in Louise Erdrich’s short story “Saint Marie.” This is my introduction paragraph from my essay: While reading Louise Erdrich’s “Saint Marie,” the protagonist Marie Lazarre continuously unburdens herself by admitting her complex motives for entering the strict Catholic “Sacred Heart Convent.” Through the constant cultural and religious jargon used by most characters, one can see the distinct quarrel of separation. This division is between the “reservation girl” in Marie and the Catholic world violently enforced by Sister Leopolda. Using devices such as black humor, Erdrich confidently conveys the multifaceted motives of Marie to gain fame through the convent.

A Human Blood Serum Protein Biomarker Assay for Rheumatoid Arthritis

Josh Swider
Wes Steiner, Chemistry and Biochemistry

Rheumatoid arthritis is an inflammatory disease in which the body’s own immune system turns upon itself and begins to attack the bone and tissue lining cartilage between joints. Although it is not known exactly why the body’s immune system does this, the result can be a rapid systemic erosion of tissue that can often lead to severe deformity within a matter of years if left untreated. While there is no cure for this disease, the earlier a diagnosis can be made the more time there is for an aggressive pre-treatment. This is why it is especially important to develop early diagnosis methods, such as a biomarker(s) of disease states that can be used to monitor a person’s health well before the onset of disease. To this end, this research projects seeks to develop an assay to rapidly and reliably determine the concentration levels of the Galectin-3 protein biomarker in human blood serum. Elevated Galectin-3 concentrations have been found to play a role in the development of rheumatoid arthritis.
Understanding the Concept of Shear Locking for Proper Bending and Fatigue Analysis of a Cantilever Beam with Applications to Wind Turbine Blades
Saleh Tafesh
Awlad Hossain, Engineering and Design

In finite element analysis (FEA) shear locking is a numerical problem, which represents over-stiffness of any structure under bending load. This shear-locking problem is not usually discussed in the conventional college FEA textbook. It is, therefore, necessary to understand how a commercial FEA code ANSYS handle this shear locking problem before conducting any serious engineering analysis. In this research, a simple cantilever beam is analyzed for bending load with ANSYS. Numerical results are then thoroughly studied to find the best element type to offer correct solutions without shear locking effect. The same element type is then used for analysis of a wind turbine blade, which behaves like a cantilever beam. Finally, the turbine blade is used for fatigue analysis under various repeated load. The objective of this research is to properly design a wind turbine blade.

Dwight Macdonald, [the lovable Boswell who annotates my old laundry slips], drinks tea.
Andrew Taylor
Chris Tylia, Art
Tom Askman, Art

Dwight Macdonald, [the lovable Boswell who annotates my old laundry slips], drinks tea. is about mental exploration & expansshunn - is about dropping from society to make your own so-sigh-a-tee (do not fear the lower rung when you can make a new ladder within a ladder!) - is about looking for the ‘American Dream” (again, again ?& again). Dedicated to and iiinspired by Tom Wolfe and the writings of Tom Wolfe - created and performed by Andrew Taylor (not Tom Wolfe, or his writings, BUT the mostly-funct-shun-all sculpture/vessel/tea pot presented in this Exhibition-shun-tion).

Trauma History as a Predictor of HIV Risk Behaviors in a Sample of Incarcerated Women
Ghynecee Temple
Kayleen Islam-Zwart, Psychology

Literature links trauma and HIV risk behavior, but little research focuses on incarcerated women specifically. This study investigated the impact of trauma history type (e.g., physical vs. sexual, child vs. adult) on HIV risk behavior. Seventy-six women incarcerated on the minimum security unit of a state prison in the northwestern US participated in an interview and completed a packet of questionnaires. It was expected that women with no trauma history would engage in significantly less HIV-risk behaviors than women with any history of physical or sexual abuse. Second, it was expected that women who were abused as children would be more likely to engage in high risk HIV behaviors than women abused as adults. Third, it was anticipated that women who experienced both child and adult abuse histories would engage in more risky behaviors than women who were abused exclusively as children or adults. Finally, it was expected that women who were sexually abused were more likely to engage in high risk HIV behaviors than women physically abused or not at all.
Cardiac Work and Vascular Resistance in Fishes
Irina Teslenko, Cherish Summers
*Thomas Hancock, Biology*

The work that the heart must perform is determined by three factors: the vascular resistance, viscosity of the blood, and required cardiac output. Techniques to assess these are being developed in smallmouth bass, walleye and rainbow trout as part of a larger project where hypotheses can be tested comparatively among groups of fishes. The morphology of the circulation determines the resistance that the heart must overcome in order to push blood through the circulatory system. Cannulation of the ventral aorta, dorsal aorta, and the atrium allows measurement of pressure at each point in the circulation, and perfusion at various flows can be used to determine both branchial (gill) and systemic resistance. Viscosity also resists flow and is determined by both quantity and size of red blood cells. Cardiac work is assessed by measuring force development and stroke volume using an intraventricular pressure-volume probe, and analysis of work loops can be used to quantify cardiac work.

Untitled
Lauren Thomas
*Tom Askman, Art*
*Chris Tyllia, Art*

I am deeply concerned with creating my own visual symbolism, texture, color, dreams, humor, perception, and emotional content in my work. Some of the greatest influences on my art include Odilon Redon, Kandinsky, Chagall, Charles Baudelaire, mythology, and fairy tales.

SNP Analysis of Cytochrome b for the Analysis of Genetic Diversity within *Odocoileus hemionus* Herds Within Washington State
Kyle Thomas, Chelsea Bennett, Kienan Loe
*Institute of Science and Technology at North Central High School*
*Randy James, Biology*

This paper reports studies on inter- and intra-herd genetic diversity among two populations of mule deer (*Odocoileus hemionus*) located in diverse parts of Washington State. The first population, Vulcan, appears in the northern part of the state and the second, Revere, in the southern regions. Blood Samples from the deer are taken directly into PCR using Hemo Klen Taq Polymerase without the need for direct DNA extraction. PCR products are then sequenced and analyzed. Resulting sequence was analyzed for single nucleotide polymorphisms within the Cytochrome b gene. Our research found an adaptive SNP that leads to an amino acid change within Cytochrome b of one of the populations.
Cheney Fracture Zone Correlated to Regional Structures

John Thurston  
Chad Pritchard, Geology

Fracture patterns in the Wanapum and Grande Ronde Basalt Formations of the Miocene Columbia River Basalt Group (CRBG) have been identified in geologic and topographic maps for the last century, yet explanations are not present in the geologic literature. To quantify the magnitude and orientation of fractures we have undertaken a detailed aerial-photo analysis of three distinct sites. Deformation has been attributed to post-Miocene movement along northwest trending lineaments (Reidel, 1984 and Watkinson & Hooper, 2000). Other explanations for fracturing of the basalt may be related to cooling joints (Long & Wood, 1986) or paleo-topography. Fracture orientations are relatively similar between sites at approximately 300°, although conjugate fractures are present. From our work we expect that fracturing is due to blind faulting that has been active sometime since the Miocene and might still be active. This research study was conducted by John Thurston, Cody Crim and Hannah Campbell.

Budget Restrictions and Reductions: Save Money and Go Green with Innovative Printing Solutions

Carrie Tompkins  
Molly Johnson, English - Technical Communication

As smartphones, e-readers, iPads, tablets and other digital devices become more prevalent, the more it makes sense to utilize this technology. Increased usage in the commercial realm is opening doors to using the technology in education. Several studies, both in academia and in the private sector, indicate that smartphones and other internet-capable devices are becoming users’ preferred method of accessing the internet. In a time of restricted budgets, alternatives to printing are becoming more and more attractive. Taking advantage of this growth in mobile device usage and saving money in the process, I created an e-book brochure instead of a traditional print brochure for the EWU Pre-Nursing program.

Structural and Magnetic Diversity Among Ni(II)-Based Polymers Comprised of Pyrazine Bridges

Hope Tran  
Jamie Manson, Chemistry and Biochemistry

Recently, the bifluoride ion (HF2-) has been introduced as a synthon in crystal engineering applications. The bifluoride ion contains a two-coordinate H-atom and the strongest known hydrogen bonds, even rivaling the strengths of some covalent bonds. However, the ability of HF2- to mediate magnetic interactions is still being explored. The family of novel complexes with the formula [Cu(HF2)(pyz)2]X where X= BF4-, SbF6-, TaF6-, NbF6- and pyz = pyrazine form an isostructural family of polymers that consist of Cu-FHF-Cu bridges. Attempts to replace copper(II) with nickel(II) using similar synthetic methods afforded an analogous structure only in the case of SbF6-, e.g., [Ni(HF2)(pyz)2]SbF6. Alternatively, two compounds of starkly different composition, structure, and magnetic properties, namely [NiF2(H2O)2(pyz)1.5]TaF6 and NiF(HF)(pyz)(NbF6), are produced when the larger TaF6- and NbF6- anions are used. In this work, the three different nickel(II) phases are compared.
Cumulative Record of Student Exam Attempts in a Mastery Based University Course

Lan Tran
Ryan Sain, Counseling, Educational and Developmental Psychology

The authors conducted a study to evaluate the test taking behavior of students in an undergraduate mastery based course. Mastery in this course consisted of passing the stated exams at 90% or better; anything lower than a 90% was not considered passing. Students had a maximum of five attempts to pass the exam comprised of approximately 20 multiple fill in the blank questions. There were a total of 10 exams throughout the term. As a dependent measure we recorded the day and number of attempts made to complete and pass or fail the exam. A cumulative record was chosen to clearly demonstrate the pattern and rate of student responding. We varied the amount of time students had to complete the exam from eight days to 28 days. We hypothesized that the pattern of responding would closely match that of a fixed interval schedule of reinforcement with a limited hold. Analysis of the data partially supports our hypothesis.

Kendo—The Way of the Sword—Builds Respect, Responsibility and Discipline

Yuma Ujihara
LaVona Reeves, English

Starting in the Samurai era in Japan, Kendo is still studied in many parts of the world. Both boys and girls are taught the ways of the sword to build character—respect, responsibility, and discipline. Some believe that in the 18th century, the modern form was developed with the bamboo sword and various body protective gear to deliver more forceful blows. There is also a meditative aspect to this martial art, originating in Zen Buddhism. In the Meiji Era, however, kendo declined because it was illegal to wear swords of any kind in public. In 1911, kendo became required in public middle schools, and by 1939 it was a required course for boys [http://www.ubckendo.com/kendo/history-kendo]. Character building is a focus of this presentation as well as the history of the art and the spirit of the samurai—bushido.

Vegetation Cover Change Detection in the Nile River Basin by Using MODIS NDVI

Aline Uwonkunda
Dick Winchell, Urban and Regional Planning
Gregg Dohrn, Urban and Regional Planning

The main objective of this study is to gather and analyze vegetation cover data throughout the Nile River basin, identify critical areas that have experienced vegetation alteration, and assess environmental impact of vegetation cover change on the land and its natural resources from 2001 through 2010. This study used satellite-derived Normalized Difference Vegetation Index (values varies between -1.0 to + 1.0) of 10-day composite images of 250m spatial resolution and Landsat 7 data sets. This research indicated that the Nile River basin’s average Normalized Differential Vegetation Index fluctuated around 0.4 to 0.42 from 2001 to 2005, although since 2005 to 2010, the vegetation index average decreased from 0.42 to 0.39. On a broad-spectrum, Nile River basin countries have experienced a systematic vegetation cover loss for five years, from 2005 to 2010. Individual sites’ analysis such as Korti, Sudan indicated a high rate of vegetation cover change; vegetation index increased from 0.1 in 2001 to 0.8 in 2010. Additional research is required for field validation of the results.
Oral Health, Poverty and Learning: Is There a Connection?
Judy Valdez

Ann O’Kelley Wetmore, Dental Hygiene

Caries is the number one disease of children in the US. Socioeconomic status, poor oral hygiene and a diet high to sugars are risk factors. Children living below poverty level have a higher risk of untreated caries because of the lack of affordable dental care, health education, fluorides, oral aids, and a balanced diet. Additionally oral disease in children is associated with overall health problems, pain, inability to eat a proper diet, excess use of hospital emergency rooms, and absence from school. Approximately 51 million school hours/year are lost due to pain from oral disease. This pain limits learning. A vicious cycle occurs when diet affects oral health, oral health affects general health, oral health affects nutrition, and ultimately nutrition affects overall health and oral health. Recognizing the impact of oral health on the health and well-being of children is the first step to address the number one unmet health need for children. Providing access to oral care for children in poverty is vital to assuring that all children have good oral health.

Arabic and English Rhetoric: An Analysis and Comparison of Taxis, Voice and Poetic Expression
Melissa Van De Wege

Tracey McHenry, English

This is a presentation comparing and contrasting Arabic rhetoric of the Middle East and English rhetoric of the United States. Arabic rhetoric is strikingly different than US English rhetoric. The rhetorical structure of an essay in Arabic is one that does not follow the linear format of a thesis statement developed through supporting details that build off of one another. An additional feature of Arabic rhetoric is a style of voice in an essay that shows ideals of collectivism. One of the ways this is done is relating the message in an essay to Islamic values, the dominant religion of the Middle East. Lastly, the writing of an essay in Arabic should sound like poetry, and repetition of an idea and elaborate description are two poetic elements found in Arabic rhetoric. All three characteristics tie back to collectivism, as the Middle East is a collectivistic culture. Understanding how these elements can be reflected in the essays written by Middle Eastern students can greatly benefit US composition instructors when reading their students’ essays and providing feedback.

Untitled
Kelsey Vance

Tom Askman, Art

I am inspired by the human figure and the aging process. My work focuses on the transformation of the body from when we are born to the final stages of our life.
**Acting: The Profession—Monologue Package**  
Paden Vance  
*Sara Goff, Theatre*  
*Jeffrey Sanders, Theatre*

The package contains two short contrasting monologues. The first is a dramatic piece taken from Frank Galati’s stage adaptation of the novel *The Grapes of Wrath* by John Steinbeck. The second is a comedic piece taken from the play *Bullshot Crummond* by Ron House and Diz White.

**The Difference in Length between Right and Left Side Head Bones in Bull Trout (*Salvelinus confluentus*) and Creation of a Bull Trout Bone Key**  
Michael Vaughan  
*Allan Scholz, Biology*

Bull trout (*S. confluentus*) are a threatened species. Dietary studies conducted to determine picivory on bull trout use diagnostic bones to identify fish remains. We created bone keys to show differences amongst bull trout and other salmonids. Novices were able to identify bull trout bones. Diagnostic bones length to fish total length regressions were then performed. Previous studies show that in some species differences between right and left side bone length exist. Bones from 12 bull trout were measured and T-tests were run to determine if length measurements were uniform or different. Results indicated there were no significant differences in bone measurements from opposite sides of the head: dentary (*t*=.22, *p*=.82); cleithra (*t*=.062, *p*=.95); preopercle (*t*=-.33, *p*=.73); opercle (*t*=.56, *p*=.58). Due to the low sample number Mann-Whitney Rank Sum tests were also run.

**Relationship of Academic Measures Allied to Social/Emotional Health**  
Kimberly Veitenheimer, Jeremy Goldman, Trevor Geren, Faith Golden  
*Susan Ruby, Psychology*

Literature investigating youth mental health indicates greater prevalence of anxiety and depression than any other time in history. Teachers have the opportunity on a daily basis to see evidence of student emotional well being through their writing. We examined the content of middle school journals written by 68 eighth grade students during regular English classes. We utilized a common academic assessment of student writing, the 6+1 Trait® Writing analytical model (Education Northwest) to score Voice (personal tone and flavor of the author’s message) and Word Choice (the vocabulary a writer chooses to convey meaning). We will examine the relationship of these variables with existing scores of anxiety, depression, resiliency, and content analyses variables from the Linguistic Inquiry Word Count software (LIWC; Pennebaker, Booth, & Francis, 2007). We will present significant relationships between the variables and suggest potential ways to further use the LIWC and the 6+1 Trait® Writing method to the benefit of schools.
Women, Power, and the Cautionary Tale of the Zombie Stripper
Frankie Viner
Mimi Marinucci, Philosophy

What do militarism, the image of man versus nature, and power have in common? How do these themes affect women? What can a film called Zombie Strippers possibly have to say about the positive empowerment of women? In this paper I will discuss an essay titled “Women and Power” by Petra Kelly, a film titled Zombie Strippers by Jay Lee, and what they have to say about these themes. I will trace these themes as they appear in each piece. Furthermore, I will argue that these two pieces support each other and build a strong argument for the embrace of power by women with a caution to the interference with such power by the external force of the oppressive system of patriarchy and its agents.

Sophistry—The Heart of Nietzsche’s Chorus
E.B. Vodde
Thomas Hawley, Government

Given the argument that Friedrich Nietzsche respected Hellenic civilization as the last historical example of a society able to combat the plague of societal nihilism through the medium of tragedy and its blend of the arts Dionysian and Apolline, this study considers the Greek practice of sophistry and argues for its inherent artistic value as being a facsimile of the art of the Greek chorus within Greek tragedy. Further arguing that Nietzsche would consider the sophists as artists utilizing their own style of tragic expression, this study draws from the current literature and Nietzsche’s own works to claim that Nietzsche’s personal ambition was to practice this art form in his own individual effort to defeat the nihilistic tendencies he believed to be inherent in all contemporary mankind.

Comparison of Tester Experience When Measuring Percent Body Fat Using Skinfolds in College-Aged Adults
Anika Vyakhk, Charles Monson
Wendy Repovich, Physical Education, Health and Recreation

Skinfolds are a simple technique for obtaining percent body fat (%BF). Training and experience are required to achieve accurate data from this method. The purpose of the study was to determine the difference in skinfold measurements between an experienced (EX) and inexperienced (IX) tester and the change over time for the IX tester for calculating %BF. Forty-six healthy, college-aged subjects (23.6±5.3y, 1.703±0.132m, and 73.03±16.11kg) were measured by the IX tester with a Lange skinfold caliper followed by the EX tester. Two different three-site locations were used. A repeated measures ANOVA compared group means. There was a significant difference (p=0.000) between testers (EX=25.57%, IX=24.26%). No significant difference (p=0.363) was found between early and late trials. Results indicate that one must take more than 408 skinfolds to become an experienced skinfold tester.
Gendercide in India
Benita Walker
Kelley Cullen, Economics

This research focuses on the economic costs of the sex selection bias in favor of males in India and identifying major factors that influence the declining sex ratio. Major factors include: the population of India below the poverty line, female labor force participation, housing, contraceptive use for women, and literacy rates. This research shows specific population trends and how although there has been a steady increase for the overall general public, there has been a decline in the population of young females. The 2001 and 2011 census taken by the Indian Government suggests that the sex ratios of children are increasing in favor of males. Abortion in India has not always been legal; however, since it has become legal, there has been an increase in early detection of female fetuses and subsequent abortions. This study investigates the cultural preference for males and its impact on society and female selective abortions across states.

The Social Evolution of Hindustani Art Music
Michael Walstrom
Michael Zukosky, Anthropology

Hindustani art music is becoming more widespread and diverse musically and socially in response to the growing demands of casual listeners and changing social environment in India. But scholars from a variety of backgrounds relate the tension that social changes are causing, such as the diluted influence of ustads/pandits (Muslim/Hindu learned men, teachers) (Wade 14, 2008) and rasikas (connoisseurs) in controlling the direction of the music and music community (Raja 2007). The shifting social structure of Hindustani art music has in many ways paralleled changes in India as a whole. New relations between musicians, audiences, and institutions have altered methods of musical training, creation, and presentation, which continue to evolve because of India’s growing economy and the influence of the international market. Raja, D. (2007). Hindustani music a tradition in transition. New Delhi: D.K. Printworld. Wade, B. (2008). Music in India the classical traditions. (Revised ed.). New Delhi: Manohar Publishers.

The Great Hanshin Earthquake of 1995: Kobe, Japan: A Look at How Japanese Culture Influenced Governmental Response and Relief
Michael Watts
Patricia Chantrill, Communication Studies

The 1995 Great Hanshin Earthquake in Kobe, Japan had many devastating physical and emotional consequences. But did the governmental response help or hinder these problems? This documents-based research paper addresses the question of how Japanese culture influenced the governmental response to the Great Hanshin Earthquake of 1995. Three categories were researched: Japanese cultural aspects, contextual groundings of the disaster, and issues relating to the governmental response.
The EWU K-9 Building Search Study
Paul Weber, Quinton Brooks
Kerryn Bell, Criminal Justice

The K-9 building search study was proposed by Quinton Brooks, Jayme Watts, and Paul Weber. The proposal was implemented as a result of collaboration between the Spokane Police Department K-9 Unit and the EWU students in which it was seen as an opportunity for the department to be able to show the results of the K-9 unit by quantifying the data of their success. The study was narrowed down to one of the many roles of a K-9 unit; searching a building for a possible suspect. The study was created to compare the building search times of a K-9 unit to that of a two-person patrol unit. Multiple buildings were set up with a hidden “suspect” for both the K-9 dog and patrol officers to find. Both the K-9 teams and the patrol teams were timed and averaged according to building type. The study found that the K-9 teams significantly reduced the time and manpower it takes to search a building for a suspect and depending on the size of the building the unit was able to find the suspect in half the time. This finding directly correlated with previous similar studies.

Llama Manure
Danica Wick, Stacey Baker, Beth Bauer, Christina Jordan
Rodger Hauge, Education

We will be investigating the properties of llama manure and monitoring its abilities as a natural fertilizer.

Effects of Climate on Texas Wildfires
Mindy Widell
Richard Orndorff, Geology

Texas experienced its hottest and driest year in 2011. Temperatures from June through July averaged 87 degrees (F) with 2.5 inches of total rainfall (Nielsen-Gammon, 2011). Consequently, wildfires spread throughout Texas, which experienced 6 of the 10 largest wildfires in its history. Overall there were 30,457 fires that burned 3,993,716 acres. The number of homes damage from the fire was 3,017. It is estimated that 34,156,740 gallons of water and retardant were dropped on the fires (Texas Forest Service, 2012). Since Nov. 15, 2011 more than 3.5 million acres have burned in Texas, breaking the all-time record of 2.1 million acres for the same period set back in 2005-2006. The pattern of temperature since 2000 is that it has increased through the years up to 2011, and it is thought to continue to rise along with a decrease in precipitation (Berger, 2011).
The Impact of Dye Extraction on the Spectral Analysis of Forensic Fiber Evidence
Regina Wike
Peter Bilous, Chemistry and Biochemistry

Fibers are a common type of crime scene evidence. Typically, the analysis of fiber evidence involves the determination of their chemical and physical properties. Unfortunately, the presence of dyes can interfere with certain spectroscopic tests. In this study, dye extractions were performed on six different synthetic fibers. The fibers were then analyzed using visible-light, infrared (IR), and Raman spectroscopy. The effectiveness of the dye extraction procedures was evaluated by comparing the fibers’ spectral characteristics before and after extraction. Our results indicate that dyes can be simply and effectively extracted from synthetic fibers with subsequent improvement in the quality of their IR and Raman spectra.

A Track & Field Athlete with Proximal Tendonosis of the Patellar Tendon and Resulting Platelet-Rich Plasma Injection
Kyle Wiley, Jimmy Akiyama, Stephen Schrater, Abby Waldo
Garth Babcock, Physical Education, Health and Recreation
Jeff Kawaguchi, Physical Education, Health and Recreation

The aim of this study was to evaluate the effectiveness of platelet-rich plasma (PRP) injection on the healing of proximal tendonosis of the patellar tendon on a female collegiate track and field athlete. Patellar tendonosis is commonly seen in high intensity sports involving repetitive jumping. Microtearing of the patellar tendon was present and focal degeneration had begun. PRP injection was implemented after rest, cryotherapy, ultrasound, electrotherapy, massage, taping, and anti-inflammatory medication proved unsuccessful. Complications, functional recovery and patient satisfaction were recorded. Currently, the athlete is at a higher level of sport activity compared to pre-PRP therapy. The results are encouraging, indicating that PRP injections have the potential to promote a satisfactory clinical outcome, even in difficult cases such as tendonosis.

Raison d’Être: What English Instruction Should Universities Provide to an Ever-Diversifying Student Body?
Daniel Williamson
Justin Young, English

For myriad of reasons, student populations at American universities are diversifying. At times, university-level English instruction has come under fire for privileging some forms of English over others. Some have argued that the traditionally required freshman English composition courses mete out a grave social injustice against linguistic minorities, thus standards should be suspended. However, if composition need not be prescriptive, should it even be required? Cash-strapped students may question the necessity of paying tuition for required courses that do not seem useful. Help wanted ads, on the other hand, often seek job applicants with excellent oral and written communication skills. Aside from industry, university academic departments outside of the arts and humanities also commonly have more positivistic expectations of student writing. Perhaps a basic technical writing course would be a better entry point for university freshman. That technical writing course could then serve as scaffolding to prepare students for composition courses that incorporate code-meshing.
Development of a Normative Database for the Test of Memory Malingering in Pediatric Populations

April Wilson, Sarah Noureddine
Lori Miller, Psychology

The purpose of this study is to create a normative database through the collection of data regarding the memory abilities of pediatric populations with and without developmental delays. Using the Test of Memory Malingering (TOMM), ongoing research will improve assessment and treatment of those presenting with known or suspected neurological or psychiatric disorders. Following a brief diagnostic interview with a parent or guardian, participants are administered both visual (TOMM) and word-list (Rey Auditory Verbal Learning Test [RVALT]) tests according to standardized procedures. We anticipate children’s scores, including optimal cut-off points, to be similar to those established in adult populations. Data collection is currently underway. Primary researchers: Appleby, E., Grove, T., Joel, C., Noureddine, S., Troha, A., Vishwanathan, J., Wilson, A.

Fur Regulates the Helicobacter pylori NapA Gene

Abigail Winschell
Andrea Castillo, Biology

*Helicobacter pylori* infection of the stomach can lead to diverse degrees of gastric disease. These diverse disease outcomes are determined in part by the presence of virulence factors in *H. pylori*, one of them being the neutrophil-activating protein (NapA). The NapA protein protects the bacterium from oxidative stress damage and has been shown to bind iron in vitro. Expression of many iron-binding proteins is regulated by a ferric uptake regulator protein (Fur); the *napA* gene is predicted to be regulated by two putative fur boxes upstream of the minimal promoter (P\textsubscript{min}). To determine if this is in fact the case, we made several constructs each containing different combinations of the fur boxes and P\textsubscript{min}. When we measure expression of a reporter conferred by these constructs we find that the fur boxes enhance expression of *napA, 100% expression versus 0.0% with P\textsubscript{min} alone. Consistent with this, promoter activity conferred by our constructs was reduced when assayed in the Δfur reporter strain.

No More Cutting the Girls!

Rahel Wondimu, Manvir Kaur
Scott Finnie, Africana Studies
Jerry Galm, Anthropology

Should human rights be applied and enforced universally? Or should peoples’ rights be culturally defined and qualified? Cultural relativism is often a strong argument when associated with human rights issues. In light of this, female genital cutting has ignited massive debate because the issue encourages many other vital issues: globalization, power over women’s and children’s rights, equality, and modernity. The World Health Organization has estimated that between 100-140 million women and girls have undergone some form of genital cutting globally, especially in Africa. The styles are generally divided into three types depending on severity: type I, clitoridectomy, partial or total removal of the clitoris; type II, excision, partial or total removal of the clitoris and the labia minora; and the most severe type III, infibulation, the removal of all tissue and sewing the remaining skin leaving just a small hole to urinate and menstruate. The practice also violates a person’s rights to health, security and physical integrity, and the right to life when the procedure results in death.
Withheld Love in “Hills Like White Elephants”
Janice Wright  
*Paul Lindholdt, English*

Symbolic forms of communication fuel Ernest Hemingway’s short story “Hills Like White Elephants,” where two lovers quarrel over whether she should have an abortion. The story is set in a train station in Spain, a crossroad that may represent the potential future directions of their relationship. The lovers’ attempts and ultimate failure to communicate by means of symbolic devices exemplify their struggle and demonstrates that their love is dying. The symbolism that saturates the story is key to understanding the ways the plot foreshadows the outcome of their struggle.

Effectiveness of Kneepads with Built-in Seat on Contact Pressure and Muscle Activity  
Kevin Wright, Jonathan Braun  
*Dan Anton, Physical Therapy*

Work related musculoskeletal disorders (MSDs) are common among occupations that require kneeling. Kneeling is required by floor covering installers, carpenters, landscapers, welders, and painters. Kneeling can put excessive contact pressure on the knees and ankles as well as require static muscle contractions that can lead to MSDs. Kneepads may help to prevent MSDs of the knees and ankles. A new type of kneepad, the Kraft Seat, has a built-in seat and rigid plastic shin guards that extend down each leg. Compared to traditional kneeling, the Kraft Seat may evenly distribute body weight, thereby reducing the amount of contact pressure on the knees and shins, as well as reduce muscle activity. The purpose of this presentation is to describe the Kraft Seat design and potential for reducing knee contact pressure and low back and lower extremity muscle activity.

The Possibility of Correlation between Facebook and College Students GPA Performance  
Tsung-mao Wu  
*Lori Miller, Psychology*

The purpose of this study is to determine if college students’ Facebook using behaviors, length, and other variables correlate with the academic performances of college students through data collection from one hundred Bellevue College students by SurveyMonkey. A survey with seven questions was posted on the SurveyMonkey website, and students were able to take the survey whenever voluntarily. All participants in the study took the survey individually and anonymously, and the recruited data was analyzed by SPSS19 (T-test, ANOVA). The result showed there was not a significant correlation between students’ Facebook use and their GPA performance, yet the result was extremely close to the significant value in the two-tailed t-test.
Social Engineering and Cyber Security
Sijie "Chris" Xia
LaVona Reeves, English

The security of the Internet has become more and more threatened. Hacker attacks and identity theft have spread all over the world. Social engineering is one kind of attack method that cannot be recognized easily by the victims. This method aims to attack people’s computer systems using the weakness of how the average human thinks and makes decisions. Social engineering often involves fraud, information gathering, and/or deception. Clearly, the security issues of cyber spaces are becoming more serious. This presentation aims to explain the main threats of cyber security and possible ways to prevent hacker attacks and identity theft.

Selecting the Best Reagent for the Detection and Enhancement of Bloody Fingerprints
Pamela Yee
Peter Bilous, Chemistry and Biochemistry

A variety of reagents can be used by crime scene investigators to enhance the pattern details of bloody fingerprints that may be invisible to the naked eye. The purpose of this study was to evaluate five blood enhancement reagents with respect to limits of detection and overall quality of the enhanced print. The following reagents were compared: Leucocrystal Violet (LCV), water-based Amido Black, Acid Yellow 7, Coomassie Brilliant Blue (CBB), and the combination of LCV followed by methanol-based Amido Black (LCV-AB). Fingerprints were prepared on porous, semi-porous, and non-porous surfaces, representing common household surfaces. We found that CBB worked best overall but LCV or LCV-AB could be considered for use with bloody fingerprints on porous or semi-porous surfaces.

Women’s Status in China—The Past and Present
BinBin Yu
LaVona Reeves, English
Li Yang, English

In modern China, over 70% of Chinese live in rural areas, and they may have larger families. Even today in these areas, three generations often live together and work together, but that is not the case very often in urban areas. In the cities, sometimes married couples are forced to live apart for large periods of time due to their jobs, and this is difficult for all members. While women are entering nearly every field and succeeding there, we still see fewer in government leadership and have a long way to go to reach gender equity at home and at work. Women are generally expected to work outside the home, cook, clean, care for elderly parents, and bear at least one child when married. Often, however, even in cities, there are live-in grandparents who provide childcare while parents are working, and this helps the women focus more on work.
SSVEP-Based BCI Demo Using Emotiv EPOC EEG Headset
Brian Zier
Paul Schimpf, Computer Science

This research project aims to develop a Brain-Computer Interface (BCI) system which utilizes Steady-State Visual Evoked Potentials (SSVEP) to allow a user to control objects on-screen simply by looking at flickering controls. One goal is to show that it is possible to use SSVEP on a relatively inexpensive consumer-grade EEG device (Emotiv EPOC). Another goal is to have the controls appear on-screen, as opposed to using a separate control display as in other SSVEP studies. Although much research has been done in the field of SSVEP-based BCIs, it is still a young and developing area and practical devices have yet to appear on the market. There has been some exploration of the use of the Emotiv EPOC headset for BCI applications, but few have examined its applicability to SSVEP. This research attempts to show its viability for SSVEP and relative simplicity in comparison to other research-grade EEG equipment.

Instructions and Procedures for the EWU Transfer Guide
Julia Zurcher
Molly Johnson, English - Technical Communication

The service learning project that I completed for English 404: Instructions and Procedures was one of the most frustrating, challenging and ultimately compelling projects I have worked on in the Technical Communications Program at EWU. ENGL 404 took roughly 30 students, split them into teams, and unleashed them on the EWU Transfer Guide. The EWU Office of Admissions simply asked us to create a two-page document that would help students to efficiently and accurately use the guide to look up course equivalencies between colleges. Little did we know that writing efficient, accurate instructions is harder than it looks. Over 10 short weeks, we studied the rhetoric behind instructions and design, conducted usability testing and submitted our instructions as a framework to help the Office of Admissions achieve its goal of enabling transfer students to navigate to the EWU Transfer Guide, determine course equivalencies by course and subject and interpret their General Education Course Requirements.
SPONSORS

Thank you for your support of the 2012 EWU Student Research and Creative Works Symposium

Spokane Teachers Credit Union
Eastern Washington University
EWU Offices of the Provost
Graduate Education Research
Undergraduate Studies
Grant and Research Development
McNair Scholars

start something big