The mission of the Lewis-Clark State College Research Symposium is to celebrate academic achievement, enhance professional development, and promote scholarship and research excellence by providing students, faculty, and guests the opportunity to present and share their work.

**Participating Programs**

**Business & Computer Science Division**
- Business
- Computer Science

**Humanities Division**
- Communication Arts
- English
- Art
- Music

**Social Sciences Division**
- Justice Studies
- Social Sciences
- Social Work

**Physical, Life, Movement & Sport Science Division**
- Biology
- Chemistry
- Earth Science
- Exercise Science Kinesiology
- Sport Administration

**Nursing & Health Sciences Division**
- Nursing

**Teacher Education and Mathematics Division**
- Teacher Education

**Technical and Industrial Division**
- Engineering Technology

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**2024 LC State Research Symposium Committee**

**Chairs:** Dr. Nancy Johnston, Dr. Jessica Savage, Marte White

Nina Peterson (Business & Computer Science)  
Rachel Kaitz (Business & Computer Science)  
Renee Harris (Humanities: English)  
Seth Bradshaw (Humanities: Communication Arts)  
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Kelsey Grafton (Humanities: Art)  
Sarah Graham (Humanities: Music)  
Joe Proud (Humanities: Music)  
Clay Robinson (Physical, Life, Movement & Sport Sciences)  
LaChelle Rosenbaum (Social Sciences: Social Work)  
Marte White (Social Sciences: Social Work)  
Gene Straughan (Social Sciences: Justice Studies)  
Michelle Pearson-Smith (Nursing & Health Sciences)

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**A special thank you is extended to the following people who made the 2024 Research Symposium a reality:**

President Cynthia Pemberton  
Provost Frederick Chilson  
Sr. Director Coeur d’Alene Rocky Owens  
Dean Martin Gibbs, Dean Luther Maddy, Dean Jeff Ober  
Dr. Krista Harwick - Associate Dean - School of Professional Studies/ Nursing & Health Sciences  
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Ms. Angel Huddleston - Events & Conferences  
Ms. Hailey Denton - Web Coordinator  
Ms. Monika Pande - SODEXO  
Ms. Julie Wilson and Ms. Lynne Whisner - Graphic Communications
FACULTY SHOWCASE
A symposium session highlighting the scholarly endeavors of LC State faculty.

Wednesday, May 1st, 12:00-1:00
Clearwater & Snake River Rooms

Keegan Schmidt
Physical, Life, Movement & Sport Sciences
Roadside Geology of Idaho

Amanda VanLanen
Social Sciences
Big Apples, Big Business

Leigh Latta
Physical, Life, Movement & Sport Sciences
Pathogen Surveillance Using Wastewater Based Epidemiology

Renee Harris
Humanities
Association, Affect, and Material Reading Practices

Thomas Hill
Teacher Education and Mathematics
(De)Constructing Social Narratives of Gender: A Cross-Grade Analysis of Children's Gendered Meaning-Making During Read-Alouds

Nina Peterson
Business and Computer Science
Software Engineering, Cybersecurity Management and the Idaho Cyberdome
Williams Conference Center Map
Thursday, May 2nd Schedule by Room

**Clearwater/Snake River Room**
- 9:30-11:30: Nursing  
- 12:00-1:00: Welcome: Provost Fredrick Chilson, Dr. Ann Brown  
- Page 5

**Lochsa/Selway River Room**
- 9:30-11:30: Nursing  
- 12:00: Physical, Life, Movement & Sports Sciences  
- 1:30-3:00: Physical, Life, Movement & Sports Sciences  
- 3:00-4:30: PLMS Graduate Reception  
- Page 17-18

**Salmon/Grande Ronde River Room**
- 9:30-11:30: Nursing  
- Page 17-18

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**Center for Arts & History**
Located at 415 Main Street
- 3:00-5:00: Humanities Senior Presentation & Humanities Graduate Reception  
- Page 20-21
Keynote Address 2024
Dr. Ann Brown
Associate Dean for Graduate Studies, Associate Professor of Exercise, Sport & Health Sciences, Director of the Human Performance Laboratory; University of Idaho

Welcome & Opening Remarks: Provost Fredrick Chilson

Being a Female and Studying Female Physiology in Academia

Thursday, May 2nd 12:00-1:00
Clearwater Room

Biography: Dr. Ann Brown graduated from Florida State University in 2016 with her doctorate in exercise physiology with a research focus in protein supplementation for aesthetic athletes. Additionally, while completing her doctorate she completed her didactic program in dietetics and became a certified sports nutritionist (CISSN). Prior to moving to Florida, she studied Biology at Seattle University all while being a member of a pre-professional dance company. She has a unique background in dance, which has allowed her to combine her education and interests into a developing area of research, dance science. Her early work in dance science naturally led to her current work investigating the impacts of body composition on female physiology. More specifically, she is investigating the body composition phenomenon known as normal weight obesity and how this may impact female health and physiology. Brown is a member of the American College of Sports Medicine, National Strength & Conditioning Associate and Associate Editor for journals from the International Society for Sports Nutrition and the International Association of Dance Medicine and Science. In 2022, Dr. Brown was named Fellow of the Year for the International Association for Dance Medicine and Science for her scholarly contributions to the area of dance nutrition. Most recently, she is a co-principal investigator on the $12 million grant awarded by the National Institutes for Health to establish the Center for Biomedical Research Excellence in Women’s Health and Nutrition at the University of Idaho.

Abstract: Dr. Brown’s presentation will share her academic journey that has led to her success in academia, specifically as a female scholar and leader in the male dominated area of exercise science. She will discuss the importance of mentorship, benefits of networking, struggling with life’s challenges, and ultimately believing in yourself. As a child, Dr. Brown struggled in the classroom but quickly learned that her social aptitude would allow her to develop supportive relationships, find impactful mentors and identify collaborators to fill the knowledge gaps. She will discuss her team approach in leadership and research and share ongoing scholarly projects and plans for her research group at the University of Idaho.
ROCK BAND – MON. April 29th 7:30pm, SUB Amphitheatre

JAZZ BAND – WED. May 1st 7:30pm, Silverthorne Theatre
Director: Joe Proud

LC State Humanities and LC State Music present
The LC State Concert Choir

Expressions of Joy
Tuesday, April 30, 2024
7:30pm
LCSC Silverthorne Theatre

To request disability accommodations, please contact the Humanities Division, humanities@lcs.edu or 208.792.2297, at least one week prior to event date.

CONCERT CHOIR
TUES. April 30 7:30pm, Silverthorne Theatre
Students: Kailey Carpenter, Gavin Dittmar, and Madelyn Hutchison
Director: Sarah Graham
**WEDNESDAY MORNING SESSION**

**Zoom link:** [https://lcsc.zoom.us/j/86162261661](https://lcsc.zoom.us/j/86162261661)

**Presenters:** Samantha Sams - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** The Prevalence of Early Childhood Trauma  
**Abstract:** In the prevalence of early childhood trauma, it is important to understand the social/emotional aspects of what will be experienced throughout the lifetime as well as what effects it will have on the individual and society. The participants affected by early childhood trauma will participate in surveys to further determine what can be a beneficial participant in society and their lifetime.

**Presenters:** Clara Blue, Faith Allen  
**Mentor:** LaChelle Rosenbaum  
**Title:** The Most Effective Way Out of Addiction  
**Abstract:** This research is examining the responses to different treatment modalities among alcoholics who are working towards sobriety. The population we examined are individuals aged 18-65+ who have gone through either inpatient, one-on-one counseling or Alcoholics Anonymous in attempts to get sober. Our research was aimed at finding which treatment type was most effective in helping one become sober and maintain their sobriety.

**Presenters:** Cristal Reza, Kayite Friesen - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** Exploring the Impact of Resources on Inmate Rehabilitation and Reintegration  
**Abstract:** The purpose of this study is to understand the mental health resources of inmates’ post-incarceration. The study uses a randomized and anonymous survey to examine the need for reintegration resources in Idaho. Data was collected regarding mental health resources, employment opportunities, and educational options. Correlation shows a current need for more resources upon release. The research shows that a lack of resources can be demotivating for post-inmates in small communities.

**Presenter:** Andrea Ackerland  
**Mentor:** LaChelle Rosenbaum  
**Title:** Identifying the Influence of Parenting Practices on Children's Screen Time  
**Abstract:** As the frequency of children's screen time usage continues to increase, so do parent's frustrations when it comes to parenting around it. The purpose of this study is to gain a better understanding of the parenting practices in relation to their child's screen time. A survey was administered to gather this data, which will be analyzed and then shared at the research symposium.

**Presenter:** Sara Clausen - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** Hospice Employees' Perceived Level of Support, Training, and Burnout: Comparison Between Rural and Urban Communities  
**Abstract:** Working in end-of-life care can be challenging. The purpose of this study was to test the theory of Maslow's Hierarchy Theoretical Framework as it relates to resources aimed to improve hospice employees' job contentment. Hospice employees were the participants surveyed using a researcher designed Qualtrics survey. This study explores whether there is a difference between urban and rural hospice workers’ perceptions of support, training, and burnout experienced. Results will be shared at the research symposium.

**Presenters:** Lacey Welter-Jordan, Lynnsey Wilson, Kaylynn Moline  
**Mentor:** LaChelle Rosenbaum  
**Title:** College Food Insecurity Correlation with ACE Scores, Age and Gender  
**Abstract:** Food insecurity is experienced by 11.7 million adults in the U.S according to the USDA statistic of 2023. This research was conducted to bring awareness to the issue of students’ basic needs being met specifically with food insecurity, and the possibility there are correlations with food security, higher ACEs scores, age, and/or gender. This research was conducted by utilizing Maslow’s Hierarchy of Needs framework, Lewis-Clark State College food pantry, and survey questionnaire.
**WEDNESDAY MORNING SESSION**

**Presenter:** Amber Allred  
**Mentor:** LaChelle Rosenbaum  
**Title:** The Use of Unguided Music Interventions on Stress and Anxiety of College Students  
**Abstract:** The purpose of this research was to find out if there is a reduction in stress and anxiety for college students with the use of unguided music interventions. The findings indicate that there is a significant reduction to stress and anxiety for college students using unguided music interventions.

**Presenter:** Samantha Schrankm - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** The Needs of Mothers Who Have Been Incarcerated  
**Abstract:** This qualitative case study is being utilized to evaluate the needs of incarcerated mothers in Idaho before, during, and after incarceration. Incarcerated mothers are a unique population due to their concerns for their children while trying to navigate the criminal justice system. Additionally, many incarcerated mothers struggle with mental health, trauma, and substance misuse.

**Presenter:** Ashley Gauthier - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** Unraveling the Spectrum: Exploring Trauma-Induced Drug Addiction and Pathways to Recovery  
**Abstract:** This study investigates the link between Adverse Childhood Experiences (ACEs) and drug use among former substance abusers on an Idaho reservation. Using a quantitative design with a correlational method, it examines early-life adversity's impact on drug initiation. Despite an anticipated correlation, no statistical significance was found between ACEs scores and the duration of addiction. The research offers insights into the complexities of trauma and addiction within this specific demographic.

**Presenter:** Shelbi Rembold - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** Financial Management Skills of Individuals with ADHD who are Medicated and Unmedicated  
**Abstract:** The purpose of this quantitative study is to compare the relationship between 18–31-year-olds with ADHD and their financial management skills, as well as the impact on these individuals. Financial skills will be measured through the Self-Reported Delinquency (SRD) and Inventory of Small Life Events (ISLE) instruments. These will measure the ability of those in the study to pay bills on time, manage debt, live without financial assistance from others, etc. (Altszuler et al, 2016).

**Presenters:** Heather Fowler, Ernesto Garcia Rosale  
**Mentor:** LaChelle Rosenbaum  
**Title:** The Impact of Social Media on Young Adults  
**Abstract:** Social Media has become a significant part of daily life, with platforms like Facebook and Instagram being popular for various reasons. However, excessive use can lead to mental health issues like anxiety and depression. Researchers analyzed interpersonal interactions among young adults aged 18–25 to examine the frequency of use, reasons for use, and perceived benefits or drawbacks. The results are pending and will be shared at the symposium.

**Presenters:** Demi Baird, Cheona Haugen - Zoom/Campus  
**Mentor:** LaChelle Rosenbaum  
**Title:** ACEs and Postpartum Depression: Is There a Connection?  
**Abstract:** Postpartum depression (PPD) is a phenomenon that occurs to mothers during the perinatal period. The question asked is, do adverse childhood events (ACEs) affect a mother's chance of developing PPD. Research implies that women with a history of ACEs are at a higher risk of developing PPD. Part of investigating this research, women in the perinatal period were sampled and a Pearson's R correlation test was conducted. Results will be shared at the student symposium.
WEDNESDAY MORNING SESSION

**Presenter:** Jennifer Roland - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** Is There a Difference in The Comfort Level of Right-Leaning and Left-Leaning Adults When Sharing Political Views with Family, Friends, and Colleagues?  
**Abstract:** A person’s political views are often shaped by family, friends, and colleagues, however, sometimes these views can clash, impacting the comfort level of political discussion. The purpose of this comparative quantitative study is to examine the differences between left-leaning and right-leaning political parties regarding their comfort level in discussing political views in personal and professional relationships. Results will be shared at the research symposium.

**Presenter:** Danyka Gutierrez Morgan - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Title:** Judicial Disparity: Examining Race within Idaho’s Legal System  
**Abstract:** The US incarceration system presents systemic challenges, especially for rural communities. This study examines racial disparities in Idaho’s legal system, focusing on incarcerated populations and sentencing outcomes. It questions whether demographic changes affect incarceration rates and sentence severity. Using categorical scoring and t-tests on Idaho’s inmate sample, the study highlights punitive policies and discriminatory factors exacerbating racial disparities in the legal system.

**Presenter:** Jamie Harrell - Zoom  
**Mentor:** LaChelle Rosenbaum  
**Abstract:** Mentorship’s Impact on Youth Court Participants: A Focus Group  
This qualitative research study was utilized to identify themes that emerged from a focus group consisting of previous mentor participants in the Idaho District 3 Youth Court program. The goal of the study was to evaluate what worked or what could be improved on in developing a connection between mentors and their youth court mentees. Themes that emerged will be discussed during the presentation.
WEDNESDAY AFTERNOON SESSION

**Presenter:** Ashley Bailie  
**Title:** Does Providing Education in Correctional Facilities Reduce Recidivism Rates?

**Presenter:** Daphne Buckland  
**Title:** The Problem With Peremptory Challenges: A Recommended Remodel of the Voir Dire Process.

**Presenter:** Emma Hostetter  
**Title:** The Death Penalty and its Effectiveness in Deterring First-Degree Murder.

**Presenter:** Paige Layman  
**Title:** Juvenile Detention, Rehabilitation, and Reducing Recidivism.

**Presenter:** Aberash Miller  
**Title:** The Prospects and Problems with Defunding Law Enforcement.

**Presenter:** Isaiah Richards  
**Title:** The Impact of Three Strikes Legislation on Controlling Violent Crime.

**Presenter:** Jessica Smith  
**Title:** Wrongful Convictions Based on False Confessions.

**Presenter:** Ju Hyun Son  
**Title:** Solitary Confinement and the Prohibition Against Cruel and Unusual Punishment.

**Presenter:** Morgan Wenning  
**Title:** The Effects of Absent Fathers on Juvenile Delinquency.

**Presenter:** Kathryn Yeats  
**Title:** Reporting Sexual Assault: A Legal or Social Problem.

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WEDNESDAY AFTERNOON POSTER SESSION 3:00 – 4:30

**Presenters:** Emily Bann, Preston Boyer, Michael Steiger, Abigail Tellez  
**Mentor:** Jenni Light  
**Title:** Old School vs New School: Comparing Drone Survey with Traditional Survey  
**Abstract:** This poster presents the results of a comparative analysis between drone surveying and traditional surveying methods, focusing on their respective effectiveness in generating topographic maps and utilizing established control points. Drone surveying offers advantages in speed, resolution, and accuracy; traditional survey offers advantages with more user-controlled options in producing products but also requires time-consuming manual measurements and specialized skills.
**Pace Pioneer**

*Presenter*: Keelyn Pilcher  
*Mentor*: Nina Peterson  
*Title*: Pace Pioneer  
*Abstract*: Pace Pioneer, developed using Ionic framework, enables any track athlete to input their time and distance to monitor their runs and times. These runs are then securely stored in a MySQL database. The App is powered by a Node.js server, which facilitates communication between the Ionic front-end and the database back-end. The App’s user interface simplifies submitting runs to then display graphical performance metrics, demonstrating a fully functional tracking app for any track athlete.

**Pitch Tracker Pro**

*Presenter*: Brandon Cabrera, Riley Ziegler, Kolby Solomon  
*Mentor*: Nina Peterson  
*Title*: Pitch Tracker Pro  
*Abstract*: PitchTracker Pro, built on the Ionic/React framework and powered by the Firebase database management system, offers a dynamic solution for tracking baseball pitches during games or practices. Through seamless integration, it records and stores pitch data per player, facilitating comprehensive performance analysis. With intuitive UI and real-time updates, coaches and players can monitor specific pitch information, empowering informed decision-making and skill refinement in every game aspect.

**Finance App**

*Presenter*: Joe Burchett  
*Mentor*: Nina Peterson  
*Title*: Finance App  
*Abstract*: A mobile application designed to monitor daily transactions and give overview of daily and weekly monetary activity.

**Software Generated Graphs for Survey Data**

*Presenter*: Joe Burchett, Marcus Papas, Zac Heimgartner, Keelyn Pilcher, Carrie Nickel  
*Mentor*: Nina Peterson  
*Title*: Software Generated Graphs for Survey Data  
*Abstract*: This project collects data from instances of a periodic Google Survey, imports that data into a SQL database, and uses command-line-based Python tools with Matplotlib to query the data and produce graphs of relevant trends and insights from the survey data. Survey data is anonymized, real-world results from a DevOps usability survey conducted over 9 quarters.

**AI-Assisted Web Deep-search**

*Presenter*: Jordan Bader, Anna Steffens, Logan Marchant, Michael Bivens  
*Mentor*: Nina Peterson  
*Title*: AI-Assisted Web Deep-search  
*Abstract*: We’re exploring basic tools for tunable, topic-specific web search, including rudimentary language-modeling (GenerativeAI) to assist in refining crawler parameters and indexes. Our goal is to manage small-data, topic-specific, deep-search of the web. We’ve set up a basic search engine; we train Bayesian networks on documents we discover with that engine, and then use a 2-gram model to generate Markov chains. Text generation produces a weighted list of contributing source documents.

**Theatre Audition Application Manager**

*Presenter*: Alaina Porquis, Jordan Bader, Logan Marchant  
*Mentor*: Nina Peterson  
*Title*: Theatre Audition Application Manager  
*Abstract*: The Theatre Audition Application Manager (“Taam”) is a cross-platform mobile application built using Ionic and ReactJS. It helps managers of community theatres organize audition applications for roles in productions. Once actors fill out a form created by the manager, Taam retrieves their response data and displays it on a single page for easy viewing. Managers may also export the responses as a pdf, either for a single actor or all actors.

**Habit Tracker Mobile App**

*Presenter*: Habit Tracker Mobile App  
*Mentor*: Nina Peterson  
*Title*: Habit Tracker Mobile App  
*Abstract*: Our mobile application, “Habit Tracker”, will help users manage their daily habits. In the app, user’s designate actions they wish to turn into habits, frequency goals for those actions, and set any desired reminders. In-app analytics show how often actions are completed, providing visual data and feedback. Users may classify actions as established habits, change their desired frequency, or remove actions completely. Developed using Ionic and ReactJS, with Firebase Store for CRUD operations.
**WEDNESDAY AFTERNOON POSTER SESSION**

**BUSINESS & COMPUTER SCIENCE** (cont.)

**WCC: SALMON/GRANDE RONDE ROOM**

**Presenters:** Jordan Hymas, Cole Devorak, Aiden Lillibridge, Logan Gray, Raven Holt  
**Mentor:** Nina Peterson  
**Title:** Ionic Music App  
**Abstract:** Our group project presents a cross-platform mobile application built with Ionic framework and React, enabling users to explore a comprehensive database of globally streamed music. Users can efficiently sort, search, and visualize data through interactive charts and graphs, gaining insights into the most popular music trends worldwide. This simple yet effective app seamlessly integrates technology with music discovery, offering a dynamic and engaging user experience across different devices, including Android, iOS, and web.

**Presenters:** Logan Gray, Gabe Pupo, Mason Stephens  
**Mentor:** Nina Peterson  
**Title:** Healthy Habits  
**Abstract:** Our project introduces a user-friendly mental health app designed to streamline well-being tracking. The main page features checkboxes for easy daily monitoring. A secondary calendar page consolidates checkbox data and offers an overall day rating feature. Through intuitive design and efficient functionality, our app simplifies mental health management, providing users with valuable insights and tools for self-care. This project was built with Ionic Framework, ReactJS, and Git tools.

**Presenters:** Logan Gray, Jordan Hymas, Aiden Lillibridge, Raven Holt, Cole Devorak  
**Mentor:** Nina Peterson  
**Title:** Top Charts  
**Abstract:** Top Charts is a cross-platform mobile application built with Ionic and React, enabling users to explore globally streamed music. Users import a file containing streaming data, and the app displays this information in a graphical way. Users can efficiently sort, search, and visualize data through interactive charts and graphs, gaining insights into music trends worldwide. This simple yet effective app offers an engaging user experience across different devices, including Android, iOS, and web.

**PHYSICAL, LIFE, MOVEMENT AND SPORT SCIENCES**

**WCC: SALMON/GRANDE RONDE ROOM**

**Presenters:** Abigail Brown, Sara Hathaway, Ava Hasenoehrl, Brayden Graves, Tesla Presnell, Jayden Youngren  
**Mentor:** Eric Stoffregen  
**Title:** Metabolic dysfunction in survivors of Blm-deficient development in Drosophila melanogaster  
**Abstract:** Blm DNA helicase is essential for proper DNA replication during early Drosophila development. Progeny from Blm-null mothers die as embryos due to lack of Blm protein. However, a few progeny survive to adulthood. We hypothesized that survivors of Blm-deficient development would display alterations in metabolic function due to DNA damage incurred during development. Our data suggest metabolic processes, particularly those related to nutrient storage, are altered by development without Blm.

**Presenters:** Ava Hasenoehrl, Abigail Brown, Brayden Graves, Sara Hathaway, Tesla Presnell, Jayden Youngren  
**Mentor:** Lloyd Mataka, Eric Stoffregen  
**Title:** Protein Aggregate Concentration in Aged Drosophila melanogaster  
**Abstract:** We investigated protein aggregates in aging Drosophila melanogaster to understand age-related phenotypes. Drosophila serve as a model for human aging and neurodegenerative diseases caused by misfolded proteins. We hypothesized that there would be an increase in aggregates between 5 and 17 days of age. We focused on male flies because they may show tendencies of aging faster. Quantification and colorimetric assays were employed. Our research project is still ongoing.

**Presenters:** Ava Hasenoehrl, Abigail Brown, Brayden Graves, Sara Hathaway, Tesla Presnell, Jayden Youngren  
**Mentor:** Eric Stoffregen  
**Title:** In Drosophila, survivors of Blm-deficient development exhibit a neurodegenerative phenotype that includes sleep and circadian rhythm disruption  
**Abstract:** Drosophila embryos that lack maternally loaded Blm protein experience DNA damage, leading to high embryo mortality. We hypothesized that the few embryos that survived to adulthood would experience neurodegeneration phenotypes. Progeny that developed with or without maternally loaded Blm were studied. Those lacking maternal Blm exhibited reduced motor function, disrupted sleep, and altered circadian rhythms, suggesting increased neurodegeneration in the absence of accelerated aging.
**Presenters:** Camden Barger, Grace Tiegs, Nallely Leon  
**Mentor:** Lloyd Mataka  
**Title:** Synthesis of Biodiesel Using Locally Sourced Waste Cooking Oil  
**Abstract:** Biodiesel is a renewable fuel source produced from animal fats and plant oils. Biodiesel production must be explored further to make advancements in renewable energy. In this study, fuel was produced using waste cooking oil of a local restaurant and the LC State campus dining hall in Lewiston, ID. Biodiesels were compared using IR Spectroscopy, flame characterization, and other methods. Results will allow for a recommendation of the preferable type of oil for biodiesel production.

**Presenters:** Cameron Blackburn, Jacob Gish, Grace McCormick, Emma Zelasko  
**Mentor:** Jacob Hornby  
**Title:** Immunity, Inflammation, and Cancer  
**Abstract:** Chronic inflammation along with the build up of genetic alterations and the loss of regulatory processes are hallmarks in the development of tumors and cancer. The effects of acute and chronic inflammation in relation to tumor suppression and formation are described. These culminate to trigger tumor-specific and associated antigens to activate our body's immune responses. The competition between inflammation and the body's immunity impacts the treatment of cancer.

**Presenter:** Chloe Shumaker  
**Mentor:** Heather Van Mullem  
**Title:** Getting and Keeping Mothers Moving: Perceptions of Exercise by Mothers Before, During, and After Pregnancy  
**Abstract:** Research is clear that engagement in physical activity leads to improved health and wellness. However, certain groups of people, including women and parents, tend to engage in less exercise (Hamilton & White, 2010). Using a mixed-methods design, the purpose of this study was two-fold: 1) to examine perceptions of exercise by mothers and 2) to explore the impact of images posted to social media of pregnant women or women exercising with their children on mother’s decisions to engage in exercise.

**Presenters:** Isabelle Carrillo, Mick Brown, Kyren Morris  
**Mentor:** Lloyd Mataka  
**Title:** Resynthesizing Triacylglycerol from Biodiesel  
**Abstract:** Biodiesel has been an essential part of agriculture in American society. Biodiesel is a biodegradable fuel source made from cooking oil. There has been little research done on reconverting the process from biodiesel. The objective of our project was to break the fatty ester through acid and base hydrolysis, resulting in a carboxylic acid. Then, we would re-esterify the carboxylic acid with glycerol, resulting in a new triglyceride. To confirm our synthesis usage of infrared spectroscopy and NMR.

**Presenters:** Jayden Youngren, Abigail Brown, Brayden Graves, Ava Hasenoehrl, Sara Hathaway, Tesla Presnell, Kyra Lockett  
**Mentor:** Eric Stoffregen  
**Title:** Y-chromosomes create a survival disadvantage in male Drosophila that lack Blm protein in early development  
**Abstract:** Drosophila that develop without Blm, a conserved helicase also found in humans, suffer DNA damage that is typically lethal to embryos. In survivors, an extreme sex bias exists towards XX females. In surviving males, an aneuploid sex chromosome karyotype, X0, is more common than expected, and outlives its XY male counterpart. Our data suggest that a Y-chromosome leads to a survival disadvantage for embryos and a reduced lifespan in adults that develop without Blm.

**Presenter:** KC Wahl  
**Mentor:** Nancy Johnston  
**Title:** Glow in the Dark Clothes: Fluorescent Whitening Agents in Laundry Detergent  
**Abstract:** Fluorescent Brightener 71 (FB71) is a compound that is commonly found in laundry detergent. This compound belongs to a group of molecules known as Fluorescent Whitening Agents (FWA's) which are used to enhance the brightness of white fabrics. The fluorescence of several household laundry detergents was measured as well as the degradation of the fluorescence using a fluorescent spectrometer. The concentration and intensity of FB71 in laundry detergent will be discussed.
## WEDNESDAY AFTERNOON POSTER SESSION

<table>
<thead>
<tr>
<th>Presenters</th>
<th>Mentor</th>
<th>Title</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>KC Wahl, Grace Tiegs, Leah Johnston</td>
<td>Nancy Johnston</td>
<td>Volatile Organic Compounds in Air Surrounding Former Philadelphia Oil Refinery Site</td>
<td>Air samples were collected using Tenax sorbent tubes in multiple locations with close proximity to a former oil refinery site in Philadelphia, PA. Samples were analyzed using gas chromatography-mass spectrometry to measure levels of benzene, toluene, ethylbenzene, xylenes (BTEX), and other gases. Maps of seasonal patterns of BTEX show spatial and temporal variability from summer to winter. Benzene risk calculations reveal a minimal impact on the health of residents due to current concentrations.</td>
</tr>
<tr>
<td>Kylie Wilson</td>
<td>Keegan L. Schmidt</td>
<td>Reaching Community Through Interactive Geologic Experiences</td>
<td>Effective communication is key to sharing science. I contributed to geology outreach by sharing the importance of clean drinking water and geologic concepts through co-creating the interactive Lewiston Clarkston Valley Aquifer Atlas using GIS (<a href="https://lcvaquifers-idaho.hub.arcgis.com/">https://lcvaquifers-idaho.hub.arcgis.com/</a>) and teaching the rock cycle to elementary students. My outreach journey is possible through programs like Work Scholars. These public service experiences demonstrated the need for engaging and accessible content.</td>
</tr>
<tr>
<td>Madilyn Sorenson</td>
<td>Nancy Johnston</td>
<td>Chemical Composition of Smoke-infused Growth Media Compared to Non-smoke-infused Growth Media</td>
<td>The addition of cigarette smoke in media has increased the growth of the common lung microbe Streptococcus pneumoniae. While the growth rates of S.pneumoniae have been studied along with the reasons why they are growing faster, the smoke-infused media has not. In this experiment, cigarette smoke-infused tryptic soy broth was evaluated for its chemical composition in comparison to non-infused tryptic soy broth. The differences between the media's chemical compositions will be discussed.</td>
</tr>
<tr>
<td>Michael Wee, Stevie Gulman, Anika Busz, Cornelius Sia, Leah Johnston</td>
<td>Nancy Johnston</td>
<td>Health Risks Associated with Aldehydes and Other Air Pollutants in Lewiston, ID</td>
<td>This study of Lewiston-Clarkston Valley monitored air toxics near a paper mill. Sampling was conducted monthly from 2023-2034 using Tenax/Sulficarb tubes and DNPH-coated cartridges, and analyzed via US EPA methods TO-17 and TO-11a with thermal-desorption gas-chromatography mass-spectrometry and liquid chromatography. The LC State site continuously measured SO2 using a Teledyne T102 analyzer. There were seasonal increases in formaldehyde and acetaldehyde, up to 30 ppb. Health risk will be calculated.</td>
</tr>
<tr>
<td>Reanna Haley, Autumn Ferguson</td>
<td>Lloyd Mataka</td>
<td>Analysis of Heavy Metal Concentrations in Soil via Flame Atomic Absorption Spectroscopy (FAAS)</td>
<td>Heavy metals when combined with different environmental elements, can become extremely toxic to plants, humans, and the environment. As a result, it is important to analyze and monitor their concentrations in soils. In this study, flame atomic absorption was used to quantify copper, zinc, and lead concentrations in samples gathered from local farms and gardens. Results will be compared to toxic thresholds.</td>
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<tr>
<td>Reanna Haley, Autumn Ferguson</td>
<td>Lloyd Mataka</td>
<td>Studying the Impact of Biodiesel on Organic Matter in Soils</td>
<td>Biodiesel is believed to be biodegradable, but we have little knowledge of its effects on various types of soils during the biodegradation process. In this study, we investigated the effect of biodiesel on organic matter content of three types of soils: potting soil, sand and campus soil using UV-Vis spectroscopy. Results show that after biodiesel was added to the soil, eventually the organic matter of all three types of soil decreased. There are a lot of ways to interpret this information.</td>
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WEDNESDAY AFTERNOON POSTER SESSION

PHYSICAL, LIFE, MOVEMENT AND SPORT SCIENCES (cont.)

Presenters: Sara Hathaway, Mick Brown, Alex Sol
Mentor: Jacob Hornby
Title: Madison Van Gelder, Autoimmune Encephalitis: Brain on Fire
Abstract: Brain on Fire is a movie based on true events describing untreated autoimmune encephalitis from an ovarian teratoma. Autoimmune encephalitis is the swelling of the brain caused when the immune system targets self-neuroglial antigens in the CNS. The most common antigen is the N-methyl-D-aspartic acid receptor antibody, which causes NMDAR-antibody encephalitis.

Presenter: Stevie Gulman
Mentor: Keegan Schmidt
Title: Marine Science Outreach in Orange County, CA
Abstract: Over the previous summer, I participated in marine science outreach with two local nonprofit organizations in Orange County, CA—Laguna Ocean Foundation and The Ocean Institute. I volunteered as a Docent, educating tide pool visitors on the marine life within the tide pools and the policies regarding marine protected areas. In addition, I was tasked with educating 5-6-year-old summer camp students on marine biology and physical oceanography.

Presenters: Teigan Lockwood, Caristae Robinson, Jayden Yougren
Mentor: Jacob Hornby
Title: GVHD: A Challenge of Tissue and Organ Donation
Abstract: Graft versus Host Disease (GvHD) can be a life-threatening complication after a tissue or organ transplantation. GvHD is caused by the recipient’s immune system recognizing the donated cells as a foreign threat. This poster focuses on the necessity of tissue and organ donation, preparation for donation, and immunosuppressant therapies used to prevent rejection.

Presenters: Brooke Barnes, Aiden Weber, Emma Zelasko
Mentor: Dr. Lloyd Mataka
Title: Comparative Analysis of Organic Based Biodiesel to Petroleum Diesel
Abstract: In this experiment, we are comparing the characteristics, properties, and performance of biodiesel (vegetable based and animal based) and petroleum based diesel. We assessed the cleaning efficiency, comparing the functional groups in each sample via IR spectroscopy, and performed a bomb calorimeter test to determine the calorific value of each. We also performed an H-NMR spectroscopy comparing vegetable biodiesel and petroleum based diesel.

Presenters: Adriana Enriquez-Gonzalez
Mentor: Angela Wartel and Leif Hoffman
Title: Gas and Liquid Chromatography Analysis of Biodiesel
Abstract: The goal of this project was to study the composition of vegetable-based biodiesel, fish-based biodiesel, and normal petroleum-based diesel as well as their combustion products. Gas and liquid chromatography-mass spectrometry were used to determine the compounds present in the samples. Both qualitative and quantitative results will be discussed.

SOCIAL SCIENCE • WCC

Presenters: Ju Hyun Son
Mentor: Angela Wartel and Leif Hoffman
Abstract: Connecting learning to life, a small group of LC students ventured to Washington, D.C., during spring break 2024 to gain a deeper understanding of our nation’s institutions and history. This poster will detail their experiences with the Legislative, Judicial, and Executive Branches and Special Interest Groups as well as lessons learned for taking future students on such a field trip.
The Spring Warrior Art Exhibition showcases student works of art created over Spring Semester.

**Introduction to Art** (ART100)
Personal Logos are created with iconography developed to represent their individual philosophies. They were drawn and transferred onto fabric using cyanotype, a contact printing method.

**Drawing** (ART 111, 211, 311)
Explorations in Perspective.
Drawing II & III: Students explore transfer techniques and multi-media to create dynamic compositions.

**Creative Non-Fiction** (ENG 309) & **Drawing** (ART 111, 211, 311)
Collaboration between Professor Jennifer Anderson's Creative Non-Fiction class and Professor Kelsey Grafton's Drawing class.
Drawing Students illustrate 100-word creative non-fiction essays using a relief printing method, Block Printing.

**Painting I** (ART-231)
Students explore watercolor techniques to understand color theory and composition.
Oil paintings of paper bag studies to explore form using soft and hard edges and local color. Masters Studies with a twist!

**Plants & People** (BIOL-120)
Botanical Illustrations: Collaboration between Dr. Elizabeth Martin and Art Professor, Kelsey Grafton
| Group 3 | Presenters: Ethan Ashbaugh, Evan Huber, Brooke Kromminga, Shelby Trent, Lisa Westra  
| Title: Mental Wellbeing of Lewiston, ID First Responders  
| Abstract: First responders are at higher risk for behavioral health problems due to repeated exposure to trauma and crisis. Recognition and treatment of post-traumatic stress, and depression are complicated by stigmatizing workplace culture, lack of mental health resources, and a lack of support. Mitigation requires a multi-pronged approach. We propose a multi-dimensional mental health program to minimize and address mental health symptoms, increase responder resiliency, and create and maintain a supportive workplace culture.  

| Group 5 | Presenters: Christian Bothwell, Mackenzie Gilbert, Madison Holm, Megan Leonard, Grace Villelli  
| Title: Adolescent Obesity  
| Abstract: High school aged adolescents who exhibit poor dietary choices and sedentary lifestyles are at risk for the development of obesity. Targeted family and school-based interventions may decrease the risk of childhood obesity. Evidence-based recommendations include education regarding healthy nutrition, proper physical exercise, and modification of maladaptive eating behaviors. Our goal is to decrease risk factors and improve the quality of current and future health status for this population via the implementation of a proven interventional program.  

| Group 6 | Presenters: Lindsay Adkins, Allison Barden, Jacie Howton, Fridah Kumenda, Chance Lee, Sophie Peterson  
| Title: Vaccination Compliance Among U.S. Preschoolers  
| Abstract: Vaccination rates among preschoolers in the U.S. are a significant public health concern. Low vaccination rates persist, leading to outbreaks and increased health risks. Factors such as vaccine hesitancy and limited healthcare access may impact vaccination compliance. By addressing barriers and promoting informed decision-making, we aim to increase vaccination rates for preschoolers through targeted education and reminders. The goal is to employ evidence-based interventions to increase vaccination rates and improve public health.  

| Group 7 | Presenters: Jestine Bugner, Candice Demers, Emma Eckard, Lori Hembree, Robert Ndambuki, Angelica Orozco Hernandez  
| Title: Disaster Preparedness in Vulnerable Populations  
| Abstract: Disaster preparedness increases individual and community resiliency, improving recovery after a critical event. Vulnerable populations face disproportionate challenges and are less likely to be adequately prepared for disasters. Preparedness is crucial to reduce the burden of long-term individual and community impact. Primary healthcare providers can play a pivotal role in assisting vulnerable people to formulate wellness plans that include disaster preparedness. We propose a pilot program to proactively support preparedness in vulnerable patient populations.  

| Group 1 | Presenters: Tina Anderson, Camryn Dierke, Marissa Havens, Sarah Koziol, Savannah Weisgerber  
| Title: Mental Health of College Students  
| Abstract: The college years present unique challenges for young adults. A lack of accustomed familial support, heightened social media use, shifting social interactions, lack of awareness of available resources, and substance use play a role in declining mental health. Each element contributes to the development of poor coping mechanisms and mental health disorders. The goal of this evidence-based project is to improve the mental well-being of college students using a web-based program.  

| Group 4 | Presenters: Riley Clark, Ryanne Denning, Janessa Schilling, Kendra Steele, Kortney Trappett  
| Title: Type 2 Diabetes Mellitus Prevention  
| Abstract: Type 2 Diabetes Mellitus is a chronic, preventable problem among Idaho adults and the 8th leading cause of death. Research shows that Diabetes Prevention Programs (DPP) decrease the rise of this modern preventable pandemic. DPPs improve patient education related to disease process, diet, and physical activity levels, but significant barriers to implementation remain. The goal of this project is to provide solutions to these barriers and partner with local healthcare partners to deliver DPPs.  

WCC: Clearwater/Snake Room • 9:30 – 11:30 • NURSING

WCC: Salmon/Grande Ronde

9:30 – 11:30 • NURSING
## THURSDAY MORNING SESSION

**WCC: Grande Ronde**
9:30 – 11:30 • NURSING

### Group 8
**Presenters:** Tara Bowen, Kayla Boyd, Jade Hansen, U. Isaiah Linabary, Ingrid Roise  
**Title:** Adolescent Depression  
**Abstract:** Adolescent mental health is worsening in the U.S. Young people report symptoms of depression, suicidal ideation, and hopelessness at alarming rates. While school and community-based mental health programs can promote teen well-being, a lack of mental healthcare providers greatly complicates identification and treatment. We propose interventions to prioritize student's mental health by facilitating community collaboration and provide nurse-driven strategies for improving the accessibility of mental health resources in the Moscow School District.

### Group 9
**Presenters:** Peyten Ely, Ashley Fernimen, Noah Gunn, Marriah Piazza, Rachel Schroeder  
**Title:** Best Practice Regarding Sudden Unexpected Infant Death Syndrome  
**Abstract:** Infants in Lewiston have the highest risk of sudden unexpected infant death syndrome (SUIDS) in Idaho. We aim to lower rates through increasing education and preventative measures to promote awareness and understanding of SUIDS among expectant mothers. By delivering comprehensive education on safe sleep guidelines prenatally, we seek to empower mothers with the knowledge, time, and tools necessary to reduce the risk of SUIDS for their infants before their delivery and upon taking their baby home.

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**WCC: Lochsa/Selway River Room • 9:00 – 11:00**

### Physical, Life, Movement, and Sport Sciences

**Presenters:** Anika Busz, Kylie Wilson  
**Mentor:** Nancy Johnston  
**Title:** Air Monitoring of Sulfur, Particulate matter, Aerosols, and Aldehydes in Lewiston, Idaho  
**Abstract:** The monitoring of air pollutants is important for public health. This study involved continuous sampling of sulfur species (SO2 and TRS), particulate matter (PM2.5), and aerosols (AOD) of Lewiston air between 2019-2022. In situ measurements of formaldehyde and acetaldehyde were also taken 2023-on. PM2.5 and AOD were highest during wildfire events, while sulfur species were less variable and well below EPA guidelines. Aldehyde species were low most of the year, with larger spikes in the spring.

**Presenters:** Kylie Wilson, Miriam Ames  
**Mentor:** Keegan L. Schmidt  
**Title:** Reverse Left Lateral Shear at Green Knob, Idaho  
**Abstract:** Mesozoic collision of the Wallowa terrane in north central Idaho formed an elbow in the collisional boundary, featuring a well-studied north-south segment and a poorly known east-west segment. We collected new structural data on the EW segment at Green Knob, Idaho, to establish the kinematics and timing of collision. Fabrics are consistent with reverse left lateral shear, which is kinematically compatible with right lateral shear defined along the NS striking segment of the collisional boundary.

**Presenters:** Cornelius Sia, Shastine Berger, Leah Johnston  
**Mentor:** Nancy Johnston  
**Title:** Volatile Organic Compounds in Wildfire Smoke near an Idaho Dairy Farm and nearby Cities  
**Abstract:** Wildfires have become more intense across the western US over the recent decades due to climate change. Wildfire smoke contains volatile organic compounds (VOC) and particulate matter (PM2.5), which are detrimental to human and animal health. Weekly samples were collected in Tenax sorbent tubes in Boise, Lewiston and Moscow (dairy farm) from 2019 to 2022. Increased PM2.5 was accompanied by elevated benzene (human carcinogen), up to 313μg/m3 and 1.81 ppbv respectively.

**Presenters:** Conner May, Chris Denny, Abby Gorton, Ike Hopper  
**Mentor:** Dr. Clay Robinson & Dr. Jessica Savage  
**Title:** Vitamin C’s Effect on Iron Absorption & Aerobic Capacity in Female Cross-Country Athletes  
**Abstract:** The purpose of this study was to determine the effects that Vitamin C has on rates of Iron absorption and whether supplementation of vitamin C and Iron will improve Ferritin, Hemoglobin, Hematocrit levels, and VO2 Max in female cross-country athletes. Six female cross-country athletes participated in pretesting including, VO2 max, and blood draws to analyze iron absorption rates & posttest after eight-week Iron & Vitamin C supplementation intervention. All data was analyzed and will be shared at the research symposium.
Presenters: Joel Mulikin, Clayton Beachy, Chloe Shumaker, Bonolo Molefe  
Mentor: Dr. Jessica Savage  
Title: Effects of Stroboscopic Vision on Lower Quarter Balance  
Purpose: To determine the effect of stroboscopic vision on the Y Balance Test Lower Quarter (YBT-LQ) in ball sport collegiate athletes.  
Methods: Participants completed six trials of familiarization in all reach directions: anterior, posteromedial, and posterolateral, for both legs. Following familiarization, participants completed three trials in each direction and scores were recorded. Limb length measurements were used for calculation of composite scores for both legs. Paired t-tests were used to determine if significant ($p < .05$) differences between composite and anterior reach scores. The results will be shared at the senior research symposium.

Presenter: Kailey Druffel  
Mentor: Dr. Clay Robinson  
Title: The Effects Robotic Surgery on Bone Tunneling Accuracy in ACL Reconstructions: A Meta Analysis  
Abstract: The purpose of this study was to determine if there was a difference in the accuracy of bone tunneling during anterior cruciate ligament (ACL) reconstruction when comparing a robotic drill to drilling by hand. P-values were obtained from research articles and were separated into two categories; cadaver research and living research. These values were analyzed to determine if there was a difference between the two methods, in both cadaver and living patients. The results will be shared at research symposium.

Presenters: Nick Seamons, Charlie Updegrave  
Mentor: Dr. Clay Robinson  
Title: Does traditional strength training or plyometrics have a greater influence on increasing power?  
Abstract: The purpose of this study was to investigate the efficacy of plyometrics and weight training regimens in enhancing the maximum vertical jump height. Pre and post-tests were used to evaluate the impact of each five-week intervention. A Vertec measuring tool was utilized to quantify jump heights before and after intervention phases. Results from this investigation could contribute to development of tailored training programs to enhance explosive power and athletic performance. Results will be shared at symposium.
***Thursday, May 2nd Keynote Address***

12:00 – 1:00, Clearwater Room

Dr. Ann Brown

Being a Female and Studying Female Physiology in Academia

Welcome and Opening Remarks: Provost Fredrick Chilson

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**THURSDAY AFTERNOON SESSION**

**WCC: Lochsa/Selway River Room • 1:30 – 3:00**

**PHYSICAL, LIFE, MOVEMENT, AND SPORT SCIENCES**

**Presenters:** Kyla Currie, Carli Ehlers, Anica Asumendi  
**Mentor:** Dr. Clay Robinson  
**Title:** Physical Activity’s effect on Emotional Health  
**Abstract:** This study was to determine if participation in physical activity positively affects emotional health of college students. There’s been a reported increase in college students’ emotional health. The survey evaluated one’s emotional health and physical activity levels. It included questions about: emotional health, and type/frequency of physical activity. Demographic information (age, gender, and athlete/non-athlete) was included. Professors emailed the survey to participants. The results will be presented at the senior research symposium.

**Presenters:** Kristine Riggers, Anne Mathema  
**Mentor:** Dr. Clay Robinson  
**Title:** Correlation between health and well-being among older adults.  
**Abstract:** The purpose of this research was to compare the quality of life between participants (Age <60) in America versus participants from Nepal/Czech Republic. This study explored socioeconomic backgrounds of participants to determine the influences, if any, and how they correlated to the overall factors of six dimensions of wellness. A survey-based evaluation tool was used to collect the opinions of participants to determine their values in overall longevity. The results will be shared at the Research Symposium.

**Presenters:** Kyren Morris, Laban Francis, Danner Maves  
**Mentor:** Dr. Clay Robinson & Dr. Jessica Savage  
**Title:** LC State Color The Valley Fun Run  
**Abstract:** There are minimal running opportunities in our community that directly target youth. A color run event was constructed as an opportunity to participate in a fitness activity for families. The objective was to have 300 people participate. Various marketing strategies were used to attract people to the event. Qualitative surveys were used to collect response from event participants to determine changes to increase participation. The results of the event will be shared at the symposium.

**PHYSICAL, LIFE, MOVEMENT, AND SPORT SCIENCES**

**Graduate Reception • WCC: • 3:00-4:30**

**Zoom:** [https://lcsc.zoom.us/j/87204771227](https://lcsc.zoom.us/j/87204771227)

**Presenter:** Randy Isbelle - Zoom  
**Mentor:** Seth Bradshaw  
**Title:** Exploring the relationship between media economics and college athletics between 1996-2024.  
**Abstract:** For decades business concerns have been encroaching upon the landscape of college athletics. The current work explores the relationships between television rights deals, the structure of college conferences, recruitment, and revenue generated by the introduction of name, image and likeness deals. Using media economics data between 1996 and 2024, I find a positive correlation between increases in the amount of television rights deals and the number of schools in Division I college football conferences.

**Presenter:** Logan Foster  
**Mentor:** Peter Remien  
**Title:** Girl on Fire: The Environment as a Revolution  
**Abstract:** This presentation uses an ecocritical lens to examine *The Hunger Games* by Suzanne Collins, giving particular attention to how the work’s natural setting serves as the catalyst to the revolutionary plot of the novel. By examining the work’s numerous natural settings, as well as the genre of young adult dystopian fiction, this presentation draws clear conclusions about the intersection of the environment and revolution.
Presenter: Justin Spencer  
**Mentor:** Renee Harris  
**Title:** War Writing and the Great War.  
**Abstract:** Using the works of Wilfred Owen and *All Quiet on the Western Front*, I will show how war writing changed drastically during WW1. Major advances in warfare technology and tactics caused the romantic themes around war writing to dissolve. War was no longer a grand adventure for a youth, but instead a dehumanizing experience. Poems about men eager to fight for their country became testimonies of the misery men faced upon the front lines.

Presenter: Mackenzie Dimond  
**Mentor:** Renee Harris  
**Title:** Coloring Liberation: Exploring Female Stereotypes in Lamia Narratives  
**Abstract:** This presentation explores color symbolism in John Keats’s “Lamia,” and A.S. Byatt’s “A Lamia in the Cévennes” with a focus on depictions of Simone De Beauvoir’s idea of stereotyping women as “Mary” or “Eve.” Lamia’s womanhood is in question in the texts, showcasing female oppression and the ongoing tension between liberation, femininity, and societal expectations. Like Lamia, women are more complex than a single color and can be liberated by coloring outside the lines.

Presenter: Paxton Taylor  
**Mentor:** Peter Remien  
**Title:** Gender Performativity and Shakespeare  
**Abstract:** Shakespeare’s comedies *Twelfth Night* and *As You Like It* challenge traditional gender roles and explore the fluidity of gender identity. Characters cross-dress, revealing that gender is a performance rather than a fixed identity. Using Judith Butler’s theory of gender performativity, I demonstrated how this subversive approach was ahead of its time. Male actors played women who then disguise themselves as men, and therefore Shakespeare’s exploration of gender highlights the enduring relevance of his work.

Presenter: Courtney M. M. Morgan  
**Mentor:** Jennifer Anderson  
**Title:** Writing the Razor’s Edge: The Verity and Variance of Liberties in Creative Nonfiction  
**Abstract:** “Writing the Razor’s Edge” is an investigation into literary genres. In considering the verity and variance in creative nonfiction, it is the essence of truth, not factual accuracy, that separates this genre from fiction. Creativity blurs the boundary between fact and fiction; therefore, it is necessary to examine the scope of responsibility within the craft. Some argue for the accountant’s truth, others for the ecstatic truth. Is there room for both in a single genre?

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*Humanities Graduate Reception to be held immediately following the presentation at the Center for Arts & History*
Welcome & Introduction:
Rocky Owens Sr. Director Coeur d’Alene Center and Provost Fredrick Chilson
Lobby Room • 2:00-2:10

FRIDAY AFTERNOON SESSION

Zoom: https://lcsc.zoom.us/j/2082921290

Presenters: Dream Beans – Alethea Codd, Kayla Librande, Magen Goforth, Kylie Christiansen, Catherine Sheppard
Title: Proposed Merger Between Dutch Bros and Café Nero
Abstract: Our strategic opportunity explores the potential for Dutch Bros to merge with Caffe Nero, a boutique coffee chain that provides an elevated coffee experience. By merging Dutch Bros and Caffe Nero, this strategic opportunity would leverage their strengths, expand market reach, enhance product offerings, and improve customer service. This merger would facilitate Dutch Bros’ entry into the boutique coffee market, reaching customers who prefer a traditional coffee shop experience over the drive-through service.
Length of time: 30 minutes

Presenters: Deja Brews – Erin Edmonds, Lauren Everhart, Grace Gentry, Elizabeth Pehan, Grace Yost, Wyatt Zylawy
Title: Brewing Success: Delivery and Pickup Innovation at Dutch Bros
Abstract: This project explains the strong need for Dutch Bros, a new and fast-growing coffee company, to establish delivery services and mobile pickup in their business model. With the needs of modern consumers ever-evolving and new technology coming out every day, this strategy stands to improve the customer experience, drive growth, and maintain competitiveness for Dutch Bros. With strengths like their strong social media presence and loyal customer market, Dutch Bros can effectively implement these new services while still aligning with their overall expansion plans focused on opening more locations across the U.S. Their customer-centric approach and strategic partnerships are arguably their strongest assets; assets which can be capitalized on alongside the delivery service implementation to solidify their position as a market leader. This strategy acknowledges the importance of technological integration and adaptation to meet the demands of today’s on-the-go consumer. Furthermore, the approach looks at the ever-evolving coffee market with a keen eye focused on efficiency and revenue growth.
Length of time: 30 minutes

Presenters: Group 4 – Jacob Wilhelm, Dylan Bragg, Anthony Martinez, Katherine Fischer, Sydney Singer, Kylie Boller
Title: A Three-Pronged Approach to Growth
Abstract: After researching Dutch Bros’ internal and external environments, we have developed a three-pronged strategic plan to advance the company’s mission and bring Dutch Bros’ “fun-loving, mind-blowing” experience to an increasing number of consumers. The three aspects of our approach are to:
1. maintain the current model of aggressive growth and expansion
2. introduce a more health-focused food and beverage menu, and
3. add seating to more locations – indoor where possible.
Length of time: 30 minutes

Presenters: The Bros - Emily Damschen, Parker Loverich, Davian Brown, Terry Davis, Samuel Stockton
Title: An Internal Analysis and Strategic Opportunity of Dutch Bros Coffee
Abstract: This study of Dutch Bros Coffee, a leading player in the coffee industry, identifies the factors that have led the company to success, as well as the barriers that have held them back. Since going public in 2021, Dutch Bros Coffee has encountered many opportunities and threats that are crucial to their continued growth. This presentation aims to address these factors and provide insights for the company’s success in the future.
Length of time: 30 minutes
FRIDAY AFTERNOON SESSION

**DARM ROOM #110 • 2:15 - 4:15**

**BUCS - BUSINESS**

**Presenters:** Strategic Bros. – Peter Barson, Andrea Cervantes Bustamante, Shelby Lawrence, Teresa Leighton, Garrett Mason, Joseph Trasher  
**Title:** Dutch Bros. Strategic Opportunity Analysis  
**Abstract:** For the past 30 years, Dutch Bros. has proven to be a company with incredible potential. A coffee shop with humble origins, today Dutch Bros. has locations in the majority of the United States and is able to deal with global competitors such as Starbucks and Dunkin Donuts. The company has proven time and time again its adaptability and resilience. Management at Dutch Bros. has implemented strategies that have secured a reputation and loyal customers. Given the company's success, it would be wise to start exploring territories outside the United States, starting from Canada, a neighboring country that will present good opportunities and fewer challenges. The ultimate goal of this expansion strategy is to broaden the company's presence in some of the territories that are now monopolized by other companies. The study presented by the group Strategic Bros. analyzes the potential of this expansion strategy, discussing its benefits, the obstacles that could be encountered, and which approach to use in order to guarantee success.  
**Length of time:** 30 minutes

**Zoom:** [https://lcsc.zoom.us/j/86841868102](https://lcsc.zoom.us/j/86841868102)

**Presenter:** Katie Sanchez  
**Program:** Secondary Education & Communication Arts  
**Title:** Teachers' Perspectives on ChatGPT and Education  
**Abstract:** Since the release of ChatGPT in 2022, many have assumed that teachers think this technology will have a negative effect on education and the classroom. However, when I asked teachers about their thoughts on ChatGPT and education I heard a more varied response. My study of over 40 educators along the West Coast demonstrates that although a majority of teachers have a negative outlook on ChatGPT, the views are much more split than previously thought.  
**Length of Presentation:** 15 minutes  
**Presentation Format:** Virtual Remote

**Presenter:** Jacob Green  
**Program:** Communication Arts  
**Title:** What Types of Nonverbal Communication are Used in Basketball and What Impact Does It Have on the Game?  
**Abstract:** Some people say having a successful basketball team is about recruiting the most physically skilled players. However, recent research suggests nonverbal communication can have a significant impact on the outcome of basketball games. Using content analysis of LC State women's basketball games, this study will discuss the different types of nonverbal communication used and the impact it has in basketball.  
**Length of Presentation:** 15 minutes  
**Presentation Format:** Virtual Remote

**Presenter:** Grace Loman  
**Program:** Secondary Education & Communication Arts  
**Title:** How Do I Look? A Research Study all about Appearances.  
**Abstract:** This survey examines experiences individuals have had surrounding physical appearance. It works to answer the question: Is there a correlation between age/weight-groups of people who have witnessed or experienced being treated differently (professionally/socially) due to physical appearance? The online survey asks participants to write testimonies from their experiences (first-hand and/or witnessed); the questions follow the hypothesis that physical appearance affects people professionally and socially.  
**Length of Presentation:** 15 minutes  
**Presentation Format:** Virtual Remote
**FRIDAY AFTERNOON SESSION**

**DARM ROOM #207 • 2:15 - 3:45**

**HUMANITIES - COMMUNICATION ARTS & SECONDARY EDUCATION (cont.)**

**Presenter:** Josie Hafer  
**Program:** Communication Arts  
**Title:** Algorithmic media and its consequential effects on users’ posting habits  
**Abstract:** Algorithmic media is a type of social media characterized by user-centric content customizing algorithms. Previous research asked if social media algorithms can divide and/or polarize users. I performed a comparative content analysis to determine how the influences of algorithmic media change the way that users interact with platforms. My research highlights two major means of succeeding on algorithmic media: by careful strategy and sometimes cutthroat competition.  
**Length of Presentation:** 15 minutes  
**Presentation Format:** Face to Face

**Presenter:** Bryant Cano  
**Program:** Communication Arts  
**Title:** Why do some people ignore severe weather warnings? What strategies can increase their effectiveness?  
**Abstract:** The negligence of severe weather and its warnings has led to destruction of properties and the loss of many lives. We need a deeper understanding for why weather warnings are not being taken seriously. This study explores research on persuasive solutions to increase adherence to severe weather warnings.  
**Length of Presentation:** 15 minutes  
**Presentation Format:** Virtual Remote

**Presenter:** Daysa Peppley  
**Program:** Communication Arts  
**Title:** How has mindfulness evolved from a small spiritual practice to a popular technique used in the workplace?  
**Abstract:** The roots of mindfulness stem from Buddhism, but the practice was moved from the East to the West by Professor Jon Kabat-Zinn. While mindfulness can be seen from a religious context, it has adapted in use depending on its context. How did mindfulness change from a strictly meditative practice to a more commonly used strategy to prevent burnout in the workplace, education sector, and other organizations?  
**Length of Presentation:** 15 minutes  
**Presentation Format:** Virtual Remote

**Zoom:** [https://lcsc.zoom.us/j/89654462169](https://lcsc.zoom.us/j/89654462169)

**Presenters:** KayLee Wangelin, Joy Fields, Natasha Goddard  
**Title:** Unmet Needs for Those with Physical Disabilities  
**Abstract:** This study identifies and examines the unmet needs of those with disabilities. Surveys administered on social media platforms provide the data for this analysis.  
**Length of Time:** 15 Minutes

**Presenters:** Heather Carroll, Cierra Gallian, Amy Rentschler  
**Title:** Relationship Between Self-care and Stress Levels in Parents with Special Needs Children  
**Abstract:** This correlational study examined the relationship between self-care and stress levels in parents with children who have special needs. The Perceived Stress Scale and The Mindful Self-Care Scale were used to measure parents of children with special needs stress levels and self-care routine. Surveys shared to parents of children with special needs provide the data for this analysis.  
**Length of Time:** 15 minutes

**Presenters:** Lisa Calder, Mark Tetzlaff  
**Title:** Assessing Community Perception of Inmate Reentry in North Idaho  
**Abstract:** This exploratory study in North Idaho addresses the challenge of inmate reentry. The research, utilizing a mixed-methods design, focuses on community perceptions of reentry, distinguishing between a re-entry facility and a program. The sample comprises North Idaho residents from community Facebook groups who voluntarily participated in a survey. Qualitative data will be integrated with quantitative data to enhance understanding of community views and support for reentry solutions.  
**Length of Time:** 15 minutes
**Presenters:** Brian Applegate, Carissa Myers  
**Title:** Stigma of People who Inject Drugs and Needle Exchanges in North Idaho  
**Abstract:** The research project aimed to investigate community attitudes towards individuals who inject drugs and needle exchange programs in Northern Idaho. The study used a modified questionnaire to collect data on authoritarianism, benevolence, social restrictiveness, and community substance abuse ideology. Data was gathered through online questionnaires posted on social media platforms. There were 150 participants.  
**Length of Time:** 15 minutes

**Presenters:** Alexis Benner, Randi Frazier  
**Title:** Transitions from Hospital to Hospice  
**Abstract:** This study surveys the experience of families and patients transitioning from hospital to Hospice. The surveys were provided to patients and caregivers when enrolling onto hospice service and explored support given during the recommendation to terminate curative care.  
**Length of Time:** 15 minutes

**Presenters:** Joshua Jennings, Cassidy Sherburne  
**Title:** Effectiveness of Components of Dialectical Behavior Therapy and Social Emotional Learning for Youth  
**Abstract:** This comparative study investigated the outcomes of integrating elements of Dialectical Behavior Therapy elements within a Social Emotional Learning curriculum, when aiming to curve maladaptive behaviors in youth aged individuals in an alternative school setting. The study involves a comprehensive assessment of pre and post-program questionnaires, covering self-awareness, social-awareness, self-management, responsible decision-making, and relationship building; this evaluation aimed to assess the effectiveness of the group as a whole.  
**Length of Time:** 15 minutes

**Presenters:** Kayla Finch, Rachael Sinnes  
**Title:** Effectiveness of Residential Drug Treatment Model vs. Drug Court Model of Substance Abuse Treatment  
**Abstract:** This descriptive mixed methods study explored a drug court treatment model and a residential treatment model to determine their effectiveness from the perception of the participants. Surveys were given to graduates of an in-patient drug treatment program and graduates of a drug court treatment program, measuring whether their perceived needs were met during their participation in the program they attended.  
**Length of Time:** 15 minutes

**Presenters:** Sarah Whiteside, Hannemae Witthaus  
**Title:** Effects of Emotional Support Animals on PTSD Severity in Individuals with Childhood Trauma: Through the Lens of Attachment Theory  
**Abstract:** This quantitative study examines the relationship between PTSD severity scores and the length of time that individual had an emotional support animal. Furthermore, this study will identify if any difference exists between PTSD severity scores and different types of animals (ie. cat, dog, etc.). Surveys will be administered to adults who have been diagnosed with PTSD and used an emotional support animal.  
**Length of Time:** 15 minutes

**Presenters:** Tyler Taysom, Autumn Tatman  
**Title:** Mental Health Disorders Amongst Individuals on Felony Probation/Parole  
**Abstract:** This study aimed to explore the mental health diagnoses and common felony charges amongst individuals on felony probation or parole. Data from one district of Idaho Probation and Parole was used to collect data for this study.  
**Length of Time:** 15 Minutes

**Presenters:** Elizabeth Irvin, Randi Lageschulte  
**Title:** The Relationship Between the Age of Diagnosis and Quality of Life in Adult Women with ADHD.  
**Abstract:** This study explores the quality of life of individuals diagnosed with ADHD before and after the age of 18. The Quality of Life questionnaire was used to gather data for this study. The participants were self-selecting individuals on Facebook.  
**Length of Time:** 15 minutes
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