

December 7, 2018

Dear Campus Community:

Welcome to this meaningful event as we celebrate our second fall celebration of the Center for Undergraduate Research and Creative Activity (CURCA). We are thrilled to host this event in the Catherine Dower Performing and Fine Arts Center and excited about the dedicated space in the heart of campus in Ely Library, which has been established as a new home for CURCA.

Since CURCA began in the spring of 2016, Westfield State University students and faculty mentors have embraced the opportunity to partner to explore new avenues, take charge of their discovery, and learn through the practice of research. The spark of each student's creative palette is ignited by applying their knowledge in this experiential realm of learning.

Our talented faculty members dedicate themselves to supporting student success through their facilitation of a high-quality, comprehensive education and experience. Thank you to our new CURCA Director, Dr. Lamis Jarvinen, and the continued engagement of the CURCA Committee to once again bring this highly-anticipated event to fruition.

I hope that our inquisitive students continue to pursue the unknown through fascinating projects that showcase their curiosity, critical thinking, and collaborative nature.

Yours truly,



Ramon S. Torrecilha, Ph.D.  
President

### ***Welcome to our 2<sup>nd</sup> Annual Fall CURCA Celebration!***

It is an honor to host an event that highlights the great work and dedication of so many students and their mentors. Over 200 undergraduate students representing disciplines from three Colleges will be sharing their diverse and engaging work. In addition, we welcome Springfield Technical Community College students and their mentors as they join us in presenting their projects. All students have explored the process, research, outcomes, and application of their knowledge and creativity to real-world issues. Their accomplishments are remarkable and worthy of celebration.

This Fall, in addition to over 140 posters, wall of words, and poetry readings, we have the addition of ten oral presentations, two of which represent our keynote speakers, David Kennedy (English) and Jarrod Petersen (Biology), our inaugural summer research students. Our ceremony is enriched with the musical talents of Charlotte Ross (Music Education & Jazz Studies) and the poetic talents of our readers Eryn Allen (English) and Teresa Adams (English). As the Director, I look forward to providing opportunities that highlight and support student and mentor success.

### ***Acknowledgements***

There are so many people to thank in helping to make this event a success. First and foremost, thank you to all of the students and their mentors who've worked tirelessly on their projects and presentations. The invaluable efforts and dedication of the members of the CURCA committee, especially Dr. Robin White for all of her help in sending out communications, reminders, and assisting with registrations. Diane Savino, CURCA Assistant, for her artistic ideas and designs and endless help in planning and communicating for this and many events. Our undergraduate interns, Gabrielle Terlizzi (Art) who designed the outside cover of this year's Celebration booklet and T-shirt and Billy Huynh (Communication and Urban Planning) who worked on the booklet content. Dr. Catherine Savini and Dr. Diane Prusank for offering poster workshops. Ryan Cranton and the staff of the Copy Center for their amazing ability to produce excellent work on short notice. Andrew Bonacci and the Music Department for allowing us to use their beautiful space and shuffling classes around to make it happen. Facilities and Operations staff for setting up the Celebration space, the Catering staff, Information Technology, Media Services, and the Marketing department for all of their help. Lastly, the many volunteers who help make the Celebration run as smoothly as possible.

Thank you all!



Lamis Jarvinen, Ph.D.  
Director, Center for Undergraduate Research and Creative Activity

## ***Fall 2018 CURCA Celebration Program***

<b>12:30 – 1:00 pm</b>	<b>Registration and All Posters Setup</b>	<b><i>Dower Rm 134</i></b>
<b>1:00 – 1:45 pm</b>	<b>Welcome and Opening Ceremonies</b> <i>Provost Dr. Diane Prusank - Welcome Remarks</i> <i>Dr. Lamis Jarvinen - Celebration Opening Remarks</i> <i>Charlotte Ross - Musical Performance</i> <i>Eryn Allen - Poetry Reading</i> <i>Teresa Adams -Poetry Reading</i>	<b><i>Dower Rm 127</i></b>
<b>1:45 – 2:45 pm</b>	<b>Oral Presentations Session I</b> <b>Wall of Words Group 1</b> <b>Poetry Readings Group 1</b>	<b><i>Dower Rm 127</i></b> <b><i>Dower Rm 120</i></b> <b><i>Dower Rm 120</i></b>
<b>2:45 – 3:00 pm</b>	<b>Coffee Break and Intermission</b>	
<b>3:00 – 4:00 pm</b>	<b>Oral Presentations Session II</b> <b>Wall of Words Group 1</b> <b>Poetry Readings Group II</b>	<b><i>Dower Rm 127</i></b> <b><i>Dower Rm 120</i></b> <b><i>Dower Rm 120</i></b>

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## *Schedule of Oral Presentations*

### Session I (1:45-2:45 p.m.)

- 1:45 - 1:53 p.m.**      **David Kennedy (English-Dr. Filas) SSuRF Keynote Speaker:**  
Campbells post colonialism “nation-ness” in the Hero with a Thousand Faces
- 1:55 – 2:03 p.m.**      **Kyle Rourke (Nursing – Dr. Brewster):** Americans with Disabilities Act – A study
- 2:05 – 2:13 p.m.**      **Zeng Ziqing (Communication – Dr. Saito):** Child brides of India
- 2:15 – 2:23 p.m.**      **Stacy Jean (Psychology – Dr. Rajgopal):** Women of color in feminism
- 2:25 – 2:33 p.m.**      **Caitlyn Letourneau (Economics – Dr. Sarnikar):** Economics of American legislative process
- 2:35 – 2:45**              **Panel Q&A**
- 2:45 – 3:00**              ***Intermission***

### Session II: (3:00 – 4:00 p.m.)

- 3:00 – 3:08 p.m.**      **Jarrod Petersen (Bio – Dr. Ramsay) SSuRF Keynote Speaker:**  
Walking on chains: Anatomy & morphology of walking appendages of striped searobin
- 3:10 – 3:18 p.m.**      **Kiala Duren (GPS – Dr. Neog):** The Lorax speaks for the trees
- 3:20 – 3:28 p.m.**      **Lorenze Beltran (Nursing – Dr. Brewster):** Ethics of streaming service produced movies with the Oscars
- 3:30 – 3:38 p.m.**      **Sabrina Dawicki (Criminal Justice – Dr. Brewster):** Treatment and expenses for Type I diabetes
- 3:40 – 3:48 p.m.**      **Carley Devlin (Nursing – Dr. Brewster):** Controversy over Roe v. Wade
- 3:50 – 4:00 p.m.**      **Panel Q&A**

# College of Arts, Humanities, and Social Sciences

Poster #

## Art

74

**Bowler, Elbert '20**

Faculty Sponsor, Prof. Keith Hollingworth

### *Indigenous American Fashions*

Modern fashions and the cultural significance of color choices.

## Communication

**Zeng, Ziqing**

121

Faculty Sponsor, Prof. Sinuk Kang

### *Does profile picture matter?*

This research project analyzes how profile pictures on social media influence self-representation. I will use qualitative and quantitative research methods to examine Asian's and American's view of profile pictures.

**Legsdin, Shauna**

60

Faculty Sponsor, Prof. Sinuk Kang

### *Cultural Differences and Interpersonal Communication*

I am researching how cultural differences affect interpersonal communication between two people, each from a separate cultural group. I am trying to find a correlation between the amount of cultural differences and amount of interpersonal conflict people encounter during cross-cultural communication.

## English

**Biseinere, Gabrielle, Noah Cox, Abbey Logan, Jonah Yeakley**

25

Faculty Sponsor, Prof. Catherine Savini

### *Assessing the Needs Around Mental Health for Students at Westfield State University Through a Campus-Wide Survey and Using the Results to Propose Change*

Our project aims to identify and address the lack of awareness among college professors regarding the mental health of students by conducting a survey of students that identifies the gaps in resources about mental health. In doing so, our survey results will be used to propose changes on campus, such as establishing professional development for faculty regarding mental health and/or integrating mental health courses for students into the core requirements.

**Bourassa, Sabrina, Madison Brodeur, Emily Provencher**

68

Faculty Sponsor, Prof. Vanessa Diana

### *Alcoholism in Native American Literature*

As students taking a Native American Literature course at WSU, we have read a few novels written by Native American authors, many of which dabble on the topic of alcoholism. The poster will be about the topic of alcoholism among Native Americans, and how it relates to novels we have read.

**Boyd, Eve**

6

Faculty Sponsor, Prof. Glen Brewster

### *Fighting Fire with Fire*

I am focusing on the controversy of armed teachers in schools. The paper I am writing will discuss gun control, protocol, and it will summarize if it is a good or bad idea.

<b>Brodeur, Madison, Emily Provencher, Sabrina Bourassa</b>	<b>100</b>
Faculty Sponsor, Prof. Vanessa Diana	
<i>Alcoholism in Native American Communities</i>	
Alcoholism is a major problem in various Native American communities in culture. In this project we are going to highlight and summarize the major points of alcoholism in Native American communities.	
<b>Carpenter, Kaylin</b>	<b>46</b>
Faculty Sponsor, Prof. Glen Brewster	
<i>Female Reproductive Rights</i>	
I will be focusing on women’s reproductive rights including abortion, sterilization, contraceptives, and family planning services. I will be examining the differences in reproductive rights between different countries and cultures and how views on the topic have changed over time.	
<b>Chartier, Jakob</b>	<b>30</b>
Faculty Sponsor, Prof. Glen Brewster	
<i>WWII</i>	
My research focuses on the treatment of the persecuted groups in WWII with a focus on the experiments. I would also like to discuss the aftermath and how survivors were transitioned back into life.	
<b>Conway, Shealynn</b>	<b>122</b>
Faculty Sponsor, Prof. Glen Brewster	
<i>Cardiovascular Disease Prevention</i>	
The work looks into different causes of cardiovascular disease. It also looks into different ways in which it can be prevented, specifically in childhood and teenage years.	
<b>Cronin, Troy, Jason Phillips, Witold Gul, Kyle White</b>	<b>104</b>
Faculty Sponsor, Prof. Vanessa Diana	
<i>Native American Powwow traditions</i>	
Our group is going to present on the Native American traditions of powwows in our in class text “There, There”.	
<b>Davis, Meaghan, Cassidy Irzyk, Rebecca Rokne</b>	<b>44</b>
Faculty Sponsor, Prof. Catherine Savini	
<i>Explain the Asterisk</i>	
This project is to raise awareness for the lack of indication on a student's transcript when they are expelled for sexual misconduct, stalking, dating violence, or domestic violence. We are seeking to start a campaign to spread this awareness and potentially push for legislation surrounding the issue of justice and safety on college campuses.	
<b>De Jesus, Valerie, Adam Hanna, Bryan Richter, Erin Coulter</b>	<b>92</b>
Faculty Sponsor, Prof. Vanessa Diana	
<i>Owl Sightings in Stanley Park</i>	
Poster will describe the relationship between Stanley Park, Westfield State University, and the town of Westfield. It will detail service work done for Stanley as well as the access to the park for students and members of the community.	

<b>Donahue, Josselyn, Shannon George, Jared La Valley</b>	<b>96</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>History for 350, Please</i></b>	
Through various service and research opportunities, we as a group have learned about the interesting and not well known history of our city. Our poster will be an engaging presentation that conveys not only what we have learned, but also how the information benefits the community.	
<b>Duncan, Jack</b>	<b>28</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Ocean Acidification and its effects on coral reef ecosystems</i></b>	
For this project, I will be focusing on how CO2 emissions are decreasing the pH of our oceans. This acidification is having detrimental effects on sea life, specifically coral reefs.	
<b>Ferrara, Elizabeth, Thalita Neves and Rachel Tynan</b>	<b>40</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>Sexual Assault on Native American Women</i></b>	
Our group plans to investigate the prominence of sexual assault on women in Native American culture. Seeing as how we all have different majors and backgrounds, we intend to investigate it on a psychological, sociological, and criminal justice standpoint as well as referencing literature from Native American authors.	
<b>Foster, Julia, Donjeta Rexhepi, Kaylee Bayersdorfer, Yannick Houewatonou</b>	<b>14</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>Alcoholism and How it is Portrayed in Native American Literature</i></b>	
Throughout our examination of four different novels, we discovered the continuous theme and stereotype of alcoholism in Native Americans. Today we aspire to inform you on the causes, effects, treatment, and prevention of alcohol to raise awareness to a topic that is relevant in today's world.	
<b>Gage, Madison</b>	<b>59</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Racism in Hospitals</i></b>	
My research topic is "Racism in Hospitals". My research will highlight ethical issues in current healthcare and how it affects medical decision-making processes.	
<b>Harvey, Bradley, Brian Brissette, Jessica O'Neil, Olivia Sousa</b>	<b>43</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>Discovering The Westfield in Westfield State</i></b>	
Our poster will focus on the service work and exploratory projects that we have completed so far this first semester. Discovering Westfield will allow both students and the whole Westfield community to learn about how businesses, the history, and other hidden gems.	
<b>Hawes, Makayla</b>	<b>53</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Physician-Assisted Death: Is it Ethical?</i></b>	
My topic is the ethics of physician-assisted death. I will explore the countries where it is legal and whether there are better alternatives.	

<b>Hobson, Kyle</b>	<b>20</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Voltaire's Influence on Equal Rights</i></b>	
The main focus of my work is on Voltaire and how he influenced equal rights. My work will also take into consideration how Voltaire was perceived as a radical person.	
<b>Jones, Matthew</b>	<b>112</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>In defense of esports</i></b>	
My work focuses on the perceptions people have of professional gaming and if they are accurate. I highlight the merits and challenges of being in the esports industry.	
<b>Kelleher, Cameron</b>	<b>57</b>
Faculty Sponsor, Prof. Beverly Army Williams	
<b><i>The truth behind social media</i></b>	
This project is based around my thesis that social media contains benefits but the benefits are being outweighed by the lack of personal interaction, depression, and the misconceptions and comparisons of ourselves. I wish to provide a call to action to the audience, and help others realize that social media is no longer bringing us together but it is tearing us apart.	
<b>Knight, Emily</b>	<b>66</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Policing in Communities and its Effects</i></b>	
My research will focus on policing techniques, policies, and presence in different communities. I will center my research around the effects of these types of policing on the communities.	
<b>La Valley, Jared, Matthew Wilcox</b>	<b>62</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>Tribal Sovereignty as Explored Through Law and Literature</i></b>	
Tribal Sovereignty is the manifestation of the inherent authority of indigenous tribes to govern themselves. This poster is designed to navigate the complexity of tribal sovereignty as explored in literature, such as Louise Erdrich's <i>The Round House</i> , and law, such as public law 280.	
<b>Lockett, Lakeisha</b>	<b>38</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Civil Rights Activist</i></b>	
My presentation is on Malcom X's life and how he became the most prominent and controversial black leaders during the civil rights era. I will then talk about his life before and what caused him to change his life around.	
<b>Long, Megan</b>	<b>88</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Poaching of the elephants</i></b>	
Humans have devastated elephant populations for years. Populations are dropping at a horrific rate.	



<b>Madden, Bridget</b>	<b>21</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Gender Based Inequality of Education Around the World</i></b>	
My research will be based on the unequal access to education for girls around the world. I will focus on the causes of gender based inequality in relation to education and highlight some of the repercussions that result from the inequality.	
<b>Nicotra, Bridget, Ryan Hickey</b>	<b>97</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>Native American Mascot Controversy</i></b>	
We're doing our project on the culture and background behind mascots pertaining to Native American culture in 2018. We'll talk about how it can affect all kinds of people in society.	
<b>O'Sullivan, Amy</b>	<b>11</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Climate Change and Hurricanes</i></b>	
My presentation will focus on how climate change has affected hurricanes. In recent years, the number of category 4/5 hurricanes has increased. Scientists have started to associated this change with the increase of earth's average temperature.	
<b>O'Sullivan, Fiona</b>	<b>10</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>Historical Trauma in Native American Culture</i></b>	
I will be exploring how historical trauma manifests in Native American culture and how it is reflected in Native American Literature. I will use two to three novels to argue this point along with peer-reviewed articles that will provide background information on historical trauma.	
<b>Phelan, Erin</b>	<b>114</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Female Genital Mutilation</i></b>	
I am going to explore why female genital mutilation began and why it continues today. I will also look into efforts to stop it and the foreseeable future of it.	
<b>Rennich, Jennifer</b>	<b>85</b>
Faculty Sponsor, Prof. Glen Brewster	
<b><i>Inequality in Sports: Differences in Treatment of Female Athletes</i></b>	
My work will focus on differences and inequalities in treatment between men's and women's sports. Included in these differences will be the wage gap and an investigation into why some sports are more unequal than others.	
<b>Roger, Chase, Dave Adams, Grace Seguin</b>	<b>13</b>
Faculty Sponsor, Prof. Vanessa Diana	
<b><i>College Kids of Tomorrow</i></b>	
Providing a positive experience for the kids of Westfield through Run Stanley, HOOT Day and many other activities. Not only do these events help the kids, they also benefit the college students participating.	

- Senecal, Kaylie** 70  
 Faculty Sponsor, Prof. Glen Brewster  
***Inequalities in Education***  
 My topic is inequality in education caused by civil war in countries like Somalia and South Sudan. I will focus on how these civil wars impact(ed) education in these countries and how they are different from countries at peace.
- Sheehan, Rachel** 47  
 Faculty Sponsor, Prof. Vanessa Diana  
***Occupation of Alcatraz***  
 The occupation of Alcatraz was an occupation of Alcatraz by 89 American Indians and supporters. This presentation is about the history of Alcatraz and how in the novel "there there" by Tommy Orange they talk about the effects it had on native Americans as a whole.
- Sherwood, Samantha** 26  
 Faculty Sponsor, Prof. Glen Brewster  
***Transgender vs. Gender Nonconforming: The Political and Social Discourse within the Transgender Community***  
 I discuss and explore the major differences between transgenderism and the concept of gender nonconforming. The main focus of my research is to address the various aspects of the transgender community and how being gender nonconforming has become a topic of discourse therein.
- Singh, Maninder** 7  
 Faculty Sponsor, Prof. Glen Brewster  
***Effects of eating beef on Human Body***  
 For my presentation I will be focusing on health effects of eating beef on human body which is produced in factory farms in the United States.
- Stearns, Amber** 16  
 Faculty Sponsor, Prof. Vanessa Diana  
***Native American Lit and the Importance of History in Telling a Story***  
 I will talk about the use of relevant Native history in contemporary Native American literature and why this history is so important in the discussion about native culture. Additionally, I'll address how these novels go about talking about some historically powerful moments.
- Stearns, Amber** 15  
 Faculty Sponsor, Prof. Glen Brewster  
***Climate Change and the Politics Divide in America***  
 My research will consider how and why the political differences in America are often a way to identify whether a person believes in the existence of climate change or not. I will also analyze how this issue of belief is affecting our reactions to climate change on a global scale.
- Swanick, Hannah** 18  
 Faculty Sponsor, Prof. Glen Brewster  
***Development of Women's Rights in Saudi Arabia***  
 This project will explore the development of rights for women in Saudi Arabia. It will focus on King Salman and the progress that he has pioneered.

- Therriault, Audrey, Krystal Vazquez, Kristin Brouillette** 63  
 Faculty Sponsor, Prof. Catherine Savini  
***Multicultural Center for Equity and Inclusion***  
 How can we, as an institution of higher education, address the issue of marginalized students not having a safe space on campus? This project proposes the construction of a Multicultural Center for Equity and Inclusion, which would be dedicated to minority groups on campus.
- Tully, Jillian** 107  
 Faculty Sponsor, Prof. Vanessa Diana  
***Wiindigo: The Deadly Cannibalistic Spirit of Native American Legend***  
 A wiindigo is a cannibalistic spirit into which humans may transform, or which may possess humans. This poster will provide/ research into the different Native American tribes and their different portrayals of the spirit as well as how it reflects on Louise Erdrich's "The Round House."
- WALL OF WORDS AUTHORS (Rm 120)***  
**Ariabel Adames, Teresa Adams, Eryn Allen, Mark Balicki, Carli Buzzell, Sean Callahan, Michael Canavan, Ariana Chiarenza, Mackenzie Coburn, Alexander Courcier, Taryn Donovan, Casey Dubrowski, Anthony Duval, Reilly Eddy, Kyle Elliott, Campbell Fackre, Charlene Feeley, Aimee Funk, Katelyn Green, Alexi Harrelson, Rebekah Hebert, Mackenzie Jackson, Cameron Jacques, Marianna Kekelidze, Zack Lajoie, Sydney Llodra, Brendan Mackechnie, Alyssa Mathieson, Anna Matthews, Emi Melendez, Nick Miller, Meaghan Monfreda, Erica Nordstrom, Taylor Pierce, Amanda Quigley, Samantha Rideout, Deidre Sandstrum, Sydney Scannell, Megan Shaughnessy, Courtney Smith, Lindsay Stenico, Lindsay Stenico, Molly Thompson, Katelyn Valencia, Christopher Votta, Hailee Wallace, Jahana Watt, Ashley Westry, Laura Williams, Saafir Wilson**  
 Faculty Sponsor, Prof. Michael Filas and Prof. Leah Nielsen
- Ethnic and Gender Studies***  
**Guerrero, Henessy, Maya Timms** 120  
 Faculty Sponsor, Prof. Shoba Rajgopal  
***Rape Culture and Celebrity Men***  
 In this presentation, Maya Timms and I explore rape culture in America and its relevance to the second wave of feminism and the third wave as well. We also primarily discuss the importance of the me too movement with its international influence and the prevalence of sexual assault.
- Geography, Planning, and Sustainability***  
**Blackburn, Brandon** 8  
 Faculty Sponsor, Prof. Dristi Neog  
***SimCity as an educational tool for planning***  
 This poster will showcase SimCity as a tool that can be used for planning education. SimCity is a fun video game that is based on criteria that may match the aspects community planners may often look into.
- Duncan, Jack** 110  
 Faculty Sponsor, Prof. Dristi Neog  
***Boston Reclamation Projects***  
 This project illustrates how Boston has grown through the ages, with special focus on reclamation projects that played a role in the successful planning of the city of Boston

**Stanczak, Teaguen** 90

Faculty Sponsor, Prof. Dristi Neog

***Rising Right Wing and White Nationalism in Western Politics***

I will review the changes in rhetoric and election results of the far right-wing political parties in six nations since the Great Recession of 2008, with emphasis on the events surrounding the European migrant crisis. I will primarily use three categories of sources to highlight the political shift; changing election trends, political violence statistics, and a breadth of direct quotes from the parties themselves, in the hopes that they can be contextualized and understood

***History***

**Howard, Thomas** 115

Faculty Sponsor, Prof. Erica Morin

***The Implications of Travel in the Early 18th Century***

I have constructed the first ever prototype transcription of Thomas Sheldon's, the man who built the Westfield Canal, diary describing his journey written 1825 English script. I then analyzed the implications of travel in the early 18th century, speaking about legal issues, death, sickness, funding, etc, cross referencing the Diary with other primary and secondary sources.

**Morgan, Sarah** 84

Faculty Sponsor, Prof. Nicholas Aieta

***Race in American Public Education***

This research provides information on the way that racial segregation has been approached in the classroom and offers new ways for teachers to discuss this topic in order to enlighten students on the severity of the issue. Through this classroom approach, the project is full of research on racial segregation throughout history specifically focusing on housing and schooling segregation.

***Language and Culture Studies***

**Bacon, Sean** 119

Faculty Sponsor, Prof. Claudia Ciano-Boyce

***Measuring Mental Resilience in People Who Have Been Discriminated Against Using an Adaptation of The Chinese Mental***

This study examined the effects of discrimination and knowledge of/participation in social supports on individual's mental resilience. Also examined was if discrimination correlated with knowledge of/participation in social support systems.

**Cox, Nicholas** 19

Faculty Sponsor, Prof. Adel Fauzetdinova

***The Subjunctive: An Alternate Reality***

This project analyzes the linguistic forms of the subjunctive tense in English and Spanish cultures. It demonstrates the correlation between the use of subjunctive in different languages and their speakers' concept of reality, which shapes the way speakers of different cultures think.

**Alegria-Cabral, Anaika** 95  
Faculty Sponsor, Prof. Adel Fauzetdinova  
*The concept of beauty through literature*  
It will involve two big cities: Buenos Aires, Argentina, and Barcelona Spain. It will discuss the different perspective of beauty through these cities and how people's interactive effects it.

### **Music**

**Carvalho, MaKenzie** 67  
Faculty Sponsor, Prof. Sonya Lawson  
*Beethoven's Sonata in D minor, "The Tempest"*  
An annotated score and style analysis that contextualizes the first movement of Beethoven's Sonata No. 17 in D minor, also known as "The Tempest".

## **College of Education, Health, and Human Services**

### **Movement Science, Sports, and Leisure Studies**

**Doyle, Erin** 87  
Faculty Sponsor, Prof. Amanda Salacinski  
*Effects of Water Aerobics on Quality of Life in Breast Cancer Survivors and Caregivers*  
Since the number of women (and men) with breast cancer is increasing, attempting to increase the quality of life of survivors and their care-givers should be of utmost importance, especially since treatments for cancer may induce many effects, including fatigue, losses in muscle strength and endurance, and decreased cardiovascular function. The overall purpose of the proposed exercise intervention is to test the effectiveness of a water aerobic program of a three session 15-week program for those who have been affected by breast cancer.

## **College of Mathematics and Sciences**

### **Biology**

**AL Jashamey, Mohammad, Cassidy Collazo** 13  
Faculty Sponsor, Prof. David Christensen  
*Roads, Culverts, and Brook Trout: Assessing Fish Passability in Skunk Brook, MA*  
In this study, we assessed the influence of culverts on the fish community of skunk brook MA to determine whether or not the culvert is passable by the fish species. We found that the culvert did not affect the native brook trout, but did affect other fish species.

**Amell, Jacqueline, Jordan Dermody, Emily Cappucci, Colleen King** 109  
Faculty Sponsor, Prof. Randi Darling  
*The Effects of Temperature on Larvae Growth of Painted Lady Butterfly*  
The effect of temperature is a key component of entomology life cycles among a diverse group of Vanessa cardui larvae. The purpose of our project was to test the hypothesis that when Painted Lady Butterfly larvae are kept in warmer temperatures, they will grow and develop quicker than the larvae in the control group, which was held at room temperature, or the larvae group that was kept in colder temperatures.

- Amell, Jacqueline,** 108  
Faculty Sponsor, Prof. David Christensen and Prof. Tarin Weiss.  
*Consequences and Continuity: Ecosystem Response to the Removal of a Small Dam, Kinne Brook, MA*  
The purpose of this project was to remove the entire dam on Kinne Brook, which was identified as a brook trout barrier by the Massachusetts Department of Fish and Game in 2012, and to restore stream morphology, hydrodynamics, connectivity and brook trout habitat. Data collected included measurements of stream cross-sections and a stream longitudinal profile, substrate size distribution, water quality, brook trout habitat suitability index, riparian plant structure, fish community analysis, and macroinvertebrate diversity.
- Ashraf, Faiqa, Hibo Hussien** 117  
Faculty Sponsor, Prof. Randi Darling  
*Harvest Ants Foraging Preferences*  
Ants are known to be social animals, we wanted to detect what food preference they would choose other than their normal food intake.
- Buckner, Austin, Thomas Cabibbo, Drew Pahl, and Henry Seo** 45  
Faculty Sponsor, Prof. Robin White  
*The Effect of Cortisol on the Healing of Glial Cells*  
We are studying the effect of the stress hormone cortisol on the healing of glial cells, neuronal support cells, after traumatic brain injury. We are studying this by examining how cortisol presence affects wound healing after scratch assay, a cell culture model of traumatic brain injury.
- Buco, Marlayna, Florence Addai, Taryn Carr, Carly Walz** 99  
Faculty Sponsor, Prof. Robin White  
*The Effects of High and Low Level Dosages of MPTP on Microglia*  
We are studying Parkinson's Disease, the second most prevalent neurodegenerative disorder which currently has no cure. We are modeling Parkinsonian-like conditions in vitro by administering the neurotoxin 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) to microglia, glial cells in the central nervous system that function as macrophages.
- Dunphy, Rachel, Justin Lecuyer** 102  
Faculty Sponsor, Prof. Ruth Darling  
*Behavioral responses of crayfish to Ethyl Alcohol in different social groups*  
We will be studying the effects of ethanol on crayfish in different social groups to deduce whether the presence of social groups will have crayfish exhibit abnormal behavior at a faster rate.
- Eaton, Carly, Millicent Asare, Courtney Capitan, Alyssa Gillespie** 9  
Faculty Sponsor, Prof. Robin White  
*The Effect of Cognition Enhancing Supplement 'Noopept' on C6 Astrocyte Growth*  
It is currently unknown if 'Noopept', a cognition enhancing drug, will create quantifiable changes in the brain. We are administering varying concentrations of 'Noopept' to C6 Astrocytes, neuronal support cells, and measuring changes in cell number and size.

- Gleason, Nicole, Tyler Gay, Raquel Jacobs, Abbi LaRoche** 37  
 Faculty Sponsor, Prof. Robin White  
***The Effects of Simulated Diet on a Cell Culture Model of Depression***  
 We researched depression, the most prevalent mental disorder in the United States, and how different diets affect brain and cell function. In addition to measuring brain scans of depressed people, we used neuronal cell culture to mimic brains with depression and quantified cell survival.
- Holdaway, Hannah, Dr. Kimberly Pouliot** 49  
 Faculty Sponsor, Prof. Kimberly Pouliot  
***Optimization of genomic DNA extraction from Gram-positive bacteria***  
 Current procedures used in Microbiology courses failed to yield optimal gDNA for use in 16s rRNA PCR. We evaluated a number of different extraction protocols to determine the suitability for producing high quality template DNA in the hands of novice users.
- LeClair, Adam, Joe Newlin** 113  
 Faculty Sponsor, Prof. Randi Darling  
***Behavioral Differences of Black and Gray Morphs of *S. carolinensis* near Westfield State University***  
 We are studying to access behavioral differences between different morphs of the species *S. carolinensis* (eastern gray squirrel).
- Lucey, Evan, Michael Goyette, Dr. Kristen Porter** 73  
 Faculty Sponsor, Prof. Kristen Porter  
***Characterization of Macrophage Growth, Maturation and Polarization: Best-Practices for the THP-1 Cell Line***  
 Immunological research involving macrophages, the THP-1 cell line is commonly used, however, the conditions in which different labs grow their THP-1's at remains unstandardized. Our project compares morphology, wound healing capability, HIV infection rate and cytokine expression among the different common treatments used in an attempt to suggest the best practice for the THP-1 cell line.
- Olson, Mike, Samuel Gerrmann** 51  
 Faculty Sponsor, Prof. Ruth Darling  
***A Comparative Study of Sexual Dimorphism and Body Morphology in the Selection of Foraging Habits of Wolf Spiders***  
 We are looking at the foraging behavior patterns in wolf spiders and comparing male versus female, as well as large vs small. We are also testing to see if there is a correlation between levels of aggressiveness and foraging rates.
- Reder, Brandon, Sam Trombley** 34  
 Faculty Sponsor, Prof. Ruth Darling  
***Density Dependence of Superworm pupation***  
 We investigated how superworm density affects the time it takes for the larva to pupate. We tested the hypothesis that increases in superworm density will lead to delays in pupa formation.

<b>Rodriguez, Juliana, Dr. Kimberly Pouliot</b>	<b>81</b>
Faculty Sponsor, Prof. Kimberly Pouliot	
<b><i>Effect of Quercetin treatment on Intestinal CaCo-2 cells</i></b>	
Intestinal CaCo-2 cells were infected with enteric microorganisms: S. bangori, S. flexneri, S. sonnei, or E. coli following treatment with Quercetin to observe bacterial-mediated invasion.	
<b>Sullivan, Paul, Dr. Kelly Anne McKeown</b>	<b>31</b>
Faculty Sponsor, Prof. Kelly Anne McKeown	
<b><i>Fluorescent Antibody Technique for the Determination of Tick Infection by the Causative Agent of Lyme Disease, Borrelia burgdorferi</i></b>	
Gut material of black-legged ticks were stained with a fluorescent antibody conjugate and examined for the presence of the bacteria Borrelia burgdorferi.	
<b><i>Chemical and Physical Sciences</i></b>	
<b>Bunce, Rachel</b>	<b>23</b>
Faculty Sponsor, Prof. Aaron O. Reyes	
<b><i>Protection of 4,6-dimethoxysalicylaldehyde and Synthesis of Dicarbonyl Intermediate via O-alkylation</i></b>	
I will be seeing if I can improve the yield of the dicarbonyl intermediate by protecting the aldehyde on 4,6-dimethoxysalicylaldehyde. This will hopefully not only improve the yield of the dicarbonyl intermediate, but assist in the making of a new drug for the treatment of breast cancer.	
<b>Cuevas, Albert, Dr. Karsten Theis</b>	<b>3</b>
Faculty Sponsor, Prof. Aaron O. Reyes	
<b><i>The Red Color Effect in Meat Industry</i></b>	
The red effect in Meat Industry Fe <sup>2+</sup> +O <sub>2</sub> .	
<b>Harden, Brandi</b>	<b>116</b>
Faculty Sponsor, Prof. Aaron O. Reyes	
<b><i>Can this United Kingdom technology work in American classrooms?</i></b>	
I am doing research on a technology called the microbit, to see if middle schoolers in American schools can grasp it as they do in the UK or if it is seen as too high tech for this age group.	
<b>Mikule, Christian, Dr. Aaron O. Reyes</b>	<b>78</b>
Faculty Sponsor, Prof. Karsten Theis	
<b><i>Cellulosic biofuels: Purification of the enzyme cellobiase from fungal tissue</i></b>	
Purify cellobiase to break down cellulose in order to ultimately derive cellulosic ethanol biofuel.	
<b>Lafrenaye, Jonathan, Rachel Bunce, Dr. Maria Carranza</b>	<b>83</b>
Faculty Sponsor, Prof. Maria Carranza and Prof. Aaron Reyes	
<b><i>Intramolecular McMurry Coupling Reaction for the Synthesis of Isoflav-3-enes</i></b>	
The novel synthesis of an isoflav-3-ene compound using the intramolecular McMurry coupling reaction of a di-carbonyl intermediate.	



<b>Thompson, Tia, Dr. Richard Rees</b>	<b>64</b>
Faculty Sponsor, Prof. Aaron O. Reyes <i>Star Evolution and Star Cluster; The Membership, Proper Motion, and Age of NGC 6397</i>	
We will be utilizing data and calculations from Gaia Data Release 2. Then we will be using the data we find and will be comparing it to stellar evolution theory.	
 <b><i>Environmental Science</i></b>	
<b>Alberti, Jackson</b>	<b>101</b>
Faculty Sponsor, Prof. Tim Parshall <b>Oriental Bittersweet Management Practices</b>	
The work performed in this project aims to remove oriental bittersweet from the Westfield experimental forest, using 2 different methods. The work performed was analyzed to decide which management practice is best.	
 <b>B D'Agostino, Gregory</b>	<b>42</b>
Faculty Sponsor, Prof. Tim Parshall <b>Promote &amp; Improve Pollinator Environment</b>	
Continue WSU Bee Campus USA status by improving and promoting the pollinator environment. Additionally, observe the current bee activity on campus, while creating an inventory of the existing plant community and propose future habitat sites.	
 <b>Blondek, Ashley</b>	<b>29</b>
Faculty Sponsor, Prof. Michael Vorwerk <b>Don't Let the Temperature Bring You Down</b>	
Injuries in the workplace are on the rise. My research digs dip analyzing if these injuries are occurring from environmental related factors or social factors.	
 <b>Bonollo, Dana</b>	<b>17</b>
Faculty Sponsor, Prof. Michael Vorwerk <b>Effects of sewage outflow in the Westfield River</b>	
At four locations along the Westfield river, surrounding the wastewater treatment plant, I used water samples to test the concentrations of phosphorous, nitrates, turbidity, dissolved oxygen, temperature and pH.	
 <b>Bonome, Lisa, Mackenzie Connors</b>	<b>24</b>
Faculty Sponsor, Prof. Michael Vorwerk <b>How River Depth and Velocity Affect the Abundance and Diversity of Macroinvertebrates</b>	
This project explores why the abundance of macroinvertebrates is much greater in the Westfield River as compared to the Little River. We want to determine if the velocity of subsurface water currents at different depths dictates the abundance of macroinvertebrates in various habitats within the rivers.	
 <b>Cheremie, Tim, Destiny Perez, Taylor Kaupp</b>	<b>91</b>
Faculty Sponsor, Prof. Lauren DiCarlo <b>Experimental Forest Restoration Plan</b>	
Restoration Plan of the Experimental Forest behind University Hall	

- Crane, Conner, Ryan Laine, John Powers** 75  
 Faculty Sponsor, Prof. Tim Parshall  
*The Path to Reestablishing an American Icon: the American Chestnut Tree*  
 Examining American chestnut resistance to chestnut blight, grown on a breeding orchard in Granville, MA. Mapping and examining the health of naturally growing chestnut trees in the local area, and establishment of a demonstration plot at Westfield State University.
- Fellmann, Alexander, Ryan Laine, John Powers** 58  
 Faculty Sponsor, Prof. Tim Parshall  
*The Effects of Gypsy Moth Defoliation on Host and Non-host Tree Radial Growth*  
 Defoliation of trees due to Gypsy moths impact both host and Non-host species' radial growth. This project uses modern dendrochronology techniques to quantify the past impacts these days I events has had on campus.
- Hardy, Veronica** 94  
 Faculty Sponsor, Prof. Michael Vorwerk  
*An Analysis of Soil, Groundwater, and Stream Temperature Dynamics As A Function of Leaf Loss (Hemlock vs Deciduous trees)*  
 This study aims to determine how the loss of Eastern Hemlock trees to invasive adelgids will affect stream ecosystems in Chester, Massachusetts. Logging thermometers were fixed in soil, groundwater, air, and stream water in both E. Hemlock groves and deciduous forest groves to ascertain the role each species plays in stream temperature regulation.
- Hatfield, Jeremy, Kelsie Merrill, Adam Bonemery** 105  
 Faculty Sponsor, Prof. Lauren DiCarlo  
*Ecological Restoration: The Ecological Yoga Trail*  
 The Ecological restoration class is creating a masterplan for a restoration project, our goal is to create an educational yoga trail to explore the interconnectedness of an individual with the environment. We will connect trails, create a budget, explore and share studies of physical exercise in education, and provide oppurtunitites for community events.
- Hawkes, Alice** 52  
 Faculty Sponsor, Prof. Tim Parshall  
*Avian Window Collisions at Westfield State University*  
 This project observes instances of bird mortality on campus due to window collisions. Preventative measures were used at one of the 5 sites tested to see if they can be prevented.
- Hicks, Steve, Andrew Shepard, Jake Cressotti, Estafan Jack** 69  
 Faculty Sponsor, Prof. Michael Vorwerk  
*An Analysis of Early Successional Habitat Wildlife Concentrations*  
 What habitat is most suitable for each kind of wildlife present within each of our four study areas.
- Hurlbut, William, Lauren Izabel** 2  
 Faculty Sponsor, Prof. Lauren DiCarlo  
*Susceptibility of WSU Campus Trees to Invasive Pests and Pathogens*  
 We collected data about campus trees and their locations. Based on this data we will determine the overall level of threat to campus trees by invasive pests and pathogens.

- Kaplan, Madison, Michelle Hudon** 1  
 Faculty Sponsor, Prof. Tim Parshall  
*Tick Abundance in Native vs Invasive Plants*  
 Collecting ticks in native and invasive plants over 6 transects. Trying to determine which plants are more susceptible to tick abundance.
- Kertanis, Matthew** 61  
 Faculty Sponsor, Prof. Emily Cole  
*Correlation of Soil Characteristics with Land Use in an Area Undergoing Ecological Succession*  
 This study looks at the soil characteristics in four different ecological habitats within Westfield State University's Environmental and Ecological Research Area. Analysis of soil properties will include organic matter content, compaction, soil horizonation and texture analysis. All of these ecosystems underwent succession at the same time, therefore this study will examine the soil property differences between each system to understand potential soil influence on why the successional ecosystems differ.
- Laine, Ryan, Conner D. Crane, John P. Powers** 71  
 Faculty Sponsor, Prof. Tim Parshall  
**The Path to Reestablishing an American Icon: The American Chestnut Tree**  
 Examining American Chestnut trees resistance to the chestnut blight through breeding methods on an orchard in Granville MA. Also, mapping and examining health of naturally growing local chestnut trees and working on creating a demonstration plot on campus.
- Landon, Emily** 41  
 Faculty Sponsor, Prof. Tim Parshall  
*Assessment of Seasonal White-tailed Deer Browse Preference*  
 The project monitors seedling/sapling height in selected plots, once in summer and once in fall, to assess if browse preferences of woody vegetation change seasonally.
- Pepicelli, Crysta, Megan White, Marissa Eisnor, Matthew Matos** 79  
 Faculty Sponsor, Prof. Michael Vorwerk  
*Invasive Eurasian Water Milfoil Mapping and management on Benton Pond*  
 In the Fall of 2018, our research team traveled to Benton Pond in Otis, Massachusetts, to collect data on the invasive plant species, Eurasian Water Milfoil. The goal is to document the distribution of the invasive plant and compare that to data from previous years to determine if recent removal techniques, such as suction harvesting and hand removal, were effective in reducing the Eurasian Water Milfoil population in the pond.
- Powers, Jack, Ryan Laine, Connor Crane** 5  
 Faculty Sponsor, Prof. Jack Powers  
**A Path to Restoring an American Icon: The American Chestnut**  
 The purpose of our project is to compare naturally growing American chestnuts to orchard bred American chestnuts. We hypothesize that the chestnut trees growing in the orchard are healthier because they are subject to better growing conditions.

- Sampson, Madelyn, Samantha Rhuda** 22  
 Faculty Sponsor, Prof. Tim Parshall  
*An Analysis of Total Suspended Solids Around the Manhan Dam Before Complete Removal*  
 We studied the movement of sediment through the Layman Mill Dam on a stretch of the Manhan River in Southampton, MA. We looked at how the river is recovering now that the dam is partially removed.
- Skoglund, Linnea, Veronica Hardy, William Hurlbut, Michael Virgilio, Eileen Moreta** 82  
 Faculty Sponsor, Prof. Lauren DiCarlo  
*Promoting Grassland Habitat in Southwick, Massachusetts*  
 Early successional habitat, such as grasslands, are increasingly rare in New England. This research proposes the restoration of a degraded site in Southwick, Massachusetts to provide rare grassland habitat for the species who depend on it.
- Skoglund, Linnea, William Hurlbut** 93  
 Faculty Sponsor, Prof. Lauren DiCarlo  
*Restoration of an Abandoned Quarry in Southwick, MA for Increased Public Enjoyment*  
 This restoration project will focus on improving public enjoyment of trails at an abandoned quarry in Southwick, MA. The goals of the project are to eliminate illegal ATV use, decrease litter, and maintain established trails at the Southwick quarry. There will also be a focus on public education through signs as to why the rare grassland ecosystem found at the quarry is important.
- Sobon, Julianne** 54  
 Faculty Sponsor, Prof. Michael Vorwerk  
*Does the River Continuum Concept Apply to the Westfield River Watershed?*  
 This project samples macro-invertebrates in various stream orders of the Westfield River Watershed. The point of this is to test the applicability of the River Continuum Concept on this watershed.
- Taylor, Justin** 76  
 Faculty Sponsor, Prof. Tim Parshall  
*What's in your Rice? Arsenic Presence in Readily Available Rice Products.*  
 I tested 13 rice-based products for their levels of arsenic, ranging from microwaveable rice to Gerber Baby food. I then compared the rice grown in the Southern United States to rice grown in India and California.
- Tricomi, Angela** 32  
 Faculty Sponsor, Prof. Michael Vorwerk and Prof. Brennan Jordan University of South Dakota  
*Meter-Scale Land-Use Changes in Drainage Networks of Local Tributaries of the Missouri National Recreational River*  
 Although vegetated stream channels provide critical ecosystem services as they contribute to improving water quality, changes in the land from natural vegetation to agriculture have been significantly influenced by agricultural commodity prices. The purpose of this research is to identify small-scale land-cover/land-use changes (LCLUC) along streams that drain into the Missouri River and provide valuable information regarding trends in LCLUC along the Missouri River and anticipated impacts on water quality.

<p><b>Turner, Steven, Sophie Baglione, Vanessa Parmeggiani</b> 89  Faculty Sponsor, Prof. Lauren DiCarlo  <i>Restoring the Stanley Park Duck Pond</i>  It is an analysis on how to restore the Duck Pond in Stanley Park. We will include all aspects of a master plan restoration of this area.</p>	
<p><b>Wier, Macklen, Lauren Izabel, Page Pressey</b> 106  Faculty Sponsor, Prof. Lauren DiCarlo  <i>Building a Pollinator Garden and Student Run Community Garden</i>  Our project is creating a pollinator garden out of local, pollinator friendly plants. Additionally, we want to extend the community garden at the Horace Mann building and teach students to use it sustainably.</p>	
<p><b>Psychology</b></p>	
<p><b>Chapman, Katherine</b> 12  Faculty Sponsor, Prof. Alex Daniel  <i>The Effects of Anxiety on Attention: An Eye-Tracking Task</i>  I am testing how general anxiety affects the body's response to negative and neutral imagery. Does anxiety impact our tendency to avoid negative imagery? We expect people who tend to be anxious to avoid the negative image by looking at the neutral image more often.</p>	
<p><b>Eckstrom, Jenna</b> 27  Faculty Sponsor, Prof. T. Alex Daniel  <i>Implicit Bias in Children</i>  I will provide a research proposal about examining implicit bias in 7 and 8 year olds, specifically regarding race. I will discuss prior research in this field and connect it with the research I plan to examine in the future.</p>	
<p><b>English, James, Jovan Roman, Devin Bushey, Marissa Abel</b> 48  Faculty Sponsor, Prof. Lynn Shelley  <i>Acceptance of Microaggressions across Race, Gender, Age and Political Orientation</i>  A survey was conducted of Westfield State University students where participants rated how acceptable it is for a white group member to say racially charged statements when in a diverse group. Findings showed no statistically significant differences in perceptions of acceptability across age, or gender, but there were slight differences by race and political orientation.</p>	
<p><b>Gwynn, Olivia, Allison Webster</b> 86  Faculty Sponsor, Prof. T. Alex Daniel  <i>Caffeine's Effect on Memory and Attention</i>  Caffeine has many effects on the mind and body. In this study, we tested how caffeine affects memory, attention, and planning.</p>	
<p><b>Heroux, Nicole, Autumn Sailor</b> 50  Faculty Sponsor, Prof. Ricki Kantrowitz  <i>Six Flags New England Human Resources Internship</i>  Internship: At Six Flags New England we assisted team members with onboarding paperwork and other day to day occurrences in their jobs. Such as but not limited to witness statements, pay discrepancies, earned sick time, and leave of absences. Also facilitating orientation trainings as part of internship hours.</p>	

- Jasiel, Michelle, Dr. Rebecca Burwell** 56  
 Faculty Sponsor, Dr. Rebecca Burwell  
***Operationalizing internalized misogyny: Is it possible?***  
 The current presentation describes how an independent study student (MJ) came to learn about internalized misogyny and her process of identifying a survey to measure it.
- Mathieu, Stephanie** 103  
 Faculty Sponsor, Prof. Thomas A. Daniel  
***Correlation Between the Fluid Intelligence and Working Memories of Police Officers***  
 This is a proposed research idea with a focus on studying controls', rookie police officers', and veteran police officers' performance on various working memory tests, with the hope that being a police officer will increase working memory, and that veteran police officers will have the highest working memory. Knowing that working memory and fluid intelligence share a correlation, I hypothesize that the group with the best working memory will have the highest fluid intelligence.
- Ovelheiro, Kayla** 39  
 Faculty Sponsor, Dr. Thomas A. Daniel  
***The Effects of Pressure on Working Memory***  
 Working memory is the ability to temporarily store and manipulate information in memory. It is used during activities such as mental math, reading comprehension, and active listening. Beilock and Carr (2005) found that participants who had higher working memory scores experienced a larger effect of pressure than those who scored lower on working memory tasks. This research project will examine how pressure affects individuals with high and low working memories in regards to their ability to perform on an intelligence test (Raven Progressive Matrices). We will be using Reading Span and Operation Span to measure working memory. We will apply pressure to individuals by informing them that they are being filmed and asking them to perform the test 20% faster. We hypothesize that this increased pressure will have a significant detrimental effect on test scores.
- Rudd, Sara** 72  
 Faculty Sponsor, Prof. Alex Daniel  
***Does household enrichment have an effect on a reading score?***  
 The presentation is a research proposal on the effect of enrichment households, whether low or high, on an online reading program improvement. The online reading program of focus is Lexia CORE5 Reading.
- Smith, Alissa, Shaunna Souve** 118  
 Faculty Sponsor, Dr. T Alex Daniel  
***The Effects of Personality on Eyewitness Testimony***  
 This presentation will investigate the effects of personality on eyewitness testimony. We believe personality to be a guiding factor in how an individual remembers an experience.

# ***Springfield Technical Community College (STCC)***

## ***Environmental Conservation***

**Begley, Rachel**

55

Faculty Sponsor, Prof. Timothy Randhir

### ***Economic and Environmental Impacts of Droughts***

Drought can cause devastating impacts worldwide on the environment, economy and on society. A case study approach is used to research into nature and impacts of drought using recent drought in California.

**Chinn, Altavise**

77

Faculty Sponsor, Prof. Timothy Randhir

### ***Emerging Contaminants and Public Health***

Emerging Contaminants (EC) pose a variety of risk to public health and to ecosystems. This study evaluates the impact of emerging contaminants on human health, effects on water supply and ecosystems, and mitigation options in the Commonwealth of Massachusetts.

111

**Duprey, Evan**

Faculty Sponsor, Prof. Timothy Randhir

### ***The Impact of Strength and Conditioning on Sport Performance***

Three main factors that affect sports performance include the effectiveness of strength and conditioning, nutrition, and injury prevention. This study evaluates applications and methods used in the strength and conditioning field that affect a team and or a player's performance.

**Ellerbe, Geegory**

36

Faculty Sponsor, Prof. Timothy Randhir

### ***Campus Design for Health and Learning***

There is a need for sustainable planning in campus infrastructure to enhance the experience of students while on campus through facilities that enhance the health and wellbeing of students. This study proposes strategies to improve campus as a healthy environment for enhanced learning.

65

**Lesieur, Adam**

Faculty Sponsor, Prof. Timothy Randhir

### ***Impacts of dams on Watershed Ecosystems***

Dams worldwide have negative impacts on stream ecosystem, including impediment to fish migration, aquatic ecosystem change, flow regime alteration, and impaired sediment movement. Combination of field visit and USGS Streamstats modeling is used to evaluate stream fluctuations above and below dams in Deerfield river.

**Lopez, Laura**

4

Faculty Sponsor, Prof. Timothy Randhir

### ***Role of Vegetation in Mitigating Water Crisis***

Forest cover help in managing stormwater, increasing water supplies and protecting water quality. Using ITree modeling it is observed that trees can improve infiltration to groundwater and reduce runoff thereby reduced storm water flooding and is important for overall water management strategy of the City of Chicopee.

**Ortiz, Keysha**

**80**

Faculty Sponsor, Prof. Timothy Randhir

***Sustainable Design of Green Buildings***

Green Building aims to reduce environmental impact, protect people's health, and help save money. The UMASS Design Buildings is evaluated using sustainable features like site, materials, and energy usage.

**Smith, Alyssa**

**33**

Faculty Sponsor, Prof. Timothy Randhir

***Great White Shark Migration***

Great White Sharks are the oceans' top predators and are becoming endangered. This study evaluates patterns of migration and factors influencing it for better conservation of this species.