Class of May, 2013

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Successful thesis projects are typically the result of the contributions of many people; but none are more important than those of the thesis advisor. The following professors contributed time, energy, and expertise in the oversight of Honors Thesis projects during the 2012-2013 academic year.

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Professor Anne Dawson, Department of Visual Arts
Professor James Diller, Department of Psychology
Professor Lisa Fraustino, Department of English
Professor Ann Higginbotham, Department of History
Professor Pete Johnson, Department of Mathematics
Professor Mizan Khan, Department of Mathematics
Professor Nicole Krassas, Department of Political Science
Professor Terry Lennox, Department of Visual Arts
Professor Jennifer Leszcynski, Department of Psychology
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INTRODUCTION

The students featured on the following pages are to be congratulated for their outstanding academic achievements. These students have responded exceptionally well to the challenges and opportunities afforded them through their participation in the University Honors Program, with their efforts culminating in the production of an original work of scholarship. The quality of the thesis projects described in this booklet is impressive and reflects well on the individual students, their respective thesis mentors, and the overall quality of the educational experience offered by the University. The outstanding scholastic achievements of these students has set a high standard for future Honors graduates.

William F. Salka
Director
University Honors Program
LINDSAY ANCEL

Major: Visual Arts, Communication
Minor: Art History with a concentration in Digital Art and Design
Future Plans are Undecided

Thesis Title: Circ du Tarot: The Symbolism of the Major Arcana Through Circus Illustration

My senior honors thesis project is an original book of illustrations and explanatory narrative relating to the Major Arcana of the Tarot. The Tarot deck is the precursor for the modern deck of cards; it contains two groupings of cards called the Major and Minor Arcana. The Major Arcana consist of twenty-two trump cards that are rich in symbolism relating to matters of a higher purpose. Some examples of Major Arcana are the Wheel of Fortune, which symbolizes the cyclical nature of the world, the Tower, which highlights catastrophe, and Death, which symbolizes rebirth. In order to complete my book I researched the history of the Tarot and created mixed media illustrations of the twenty-two Major Arcana. The illustrations were created from marker drawings and gouache paintings that were scanned into the computer at 300dpi. I used Adobe Illustrator and Adobe Photoshop to digitally render and edit the illustrations.

STEPHANIE ARMAGNO

Major: Business Administration & Theatre
Concentration: Management and Acting
Plans to work as a Staff Consultant at RMI in Avon, CT and finish minor in Accounting

Thesis Title: Process and Playwriting: Love Games

Having explored various disciplines at Eastern and observed that the most powerful themes are contained in prose and dialogue, I explored my own conveyance of these communication methods by writing a full-length, two-act script for the stage. I selected a comedic but relevant topic that will resonate with my audience. With relatable characters and realistic dialogue, my satirical script, titled Love Games, supports a main theme regarding the contemporary and upcoming crisis of this generation’s addiction to computer games, video games, and other games with fantasy worlds.
**MICHELLE PATENAUTE**  
Major: English and Elementary Education  
Plans to teach in an Elementary School and pursue a Masters Degree in Education  

**Thesis Title:** Censored or Celebrated? A Comparative Analysis of Sexuality in Banned and Award Winning Young Adult Literature  
For my Thesis, I created a method of comparing and contrasting the content and themes of banned and award-winning young adult literature. My project focused on the theme of sexuality as this is often a point of controversy and censorship within the young adult genre. In order to analyze the similarities within banned and award-winning novels, I created a scale which demonstrates the fluidity between the two categories as well as the impracticality of prescribing a strict label of “banned” to any book used in my project.

**LISA PETROPOULOS**  
Major: English  
Minors: Writing, Communications  
Will attend Graduate School  

**Thesis Title:** Why Am I Doing This Again? Extreme Adventures of an Asthmatic Girl  
Memoir is a sub-genre of creative nonfiction in which the writer shares personal stories to make a human connection with readers. Some other purposes of memoir include self-discovery, resistance of master narratives that attempt to define us, and entertainment. In my creative Honors thesis, an original memoir, I share personal stories of extreme sports I have been introduced to, such as rock climbing, mountain biking, and ice climbing. I reflect on motivations behind my move from un-athletic nerd to adventurous outdoorswoman, as well as obstacles I faced along the way. By utilizing self-effacing humor, I convey my self-doubt as I leave my comfort zone and embark on a journey that pushes me to the limits, both physically and emotionally. My memoir’s human connection is to inspire readers to not let their trepidations stop them from leaving their own comfort zone and trying something they never thought themselves capable of before.

**SARAH BARTOSIAK**  
Major: History & Social Science  
Minor: Sociology, Geography  
Pursue a Masters Degree in Early Modern History at Trinity College, Dublin, Ireland  

**Thesis Title:** From Goddesses to Warriors: Gender Roles and the Struggle for Irish Nationalism, 1890-1923  
Many women were part of a diverse Irish nationalist movement, which became a key political force and a mass social movement in Ireland during the nineteenth and twentieth centuries. This thesis will examine how female nationalists perceived the necessity for violence in both the nationalist movement and in the construction of an Irish identity by analyzing their contributions to cultural nationalism and their participation in revolutionary violence. Furthermore, it will explain the gender ideology that ruled Irish society at this time to provide a point of reference for the examination into the way nationalist Irishwomen both conformed to and confused traditional gender roles with their involvement. Although the women had varying visions for, roles in, and contributions to the movement, they were all similar in that their political and cultural works helped to shape an independent and self-governing Ireland, as well as a traditional and unique Irish culture.

**JOSEPH BERGLUND**  
Major: English  
Pursue a career in Literature and Music Composition  

**Thesis Title:** Progress: Dystopian Fiction and The Writer’s Perspective  
This analysis provides clarification and explanation on the subject of “dystopian fiction” and its relevance in the modern-age. Two notable literary works, definitive of the genre—George Orwell’s *1984* and Aldous Huxley’s *A Brave New World*—are referenced and explored via a detailed “close reading” of each. This analysis also helps to uncover the reasons why these novels have maintained their significance and influence decades after their original release. In addition, testimony from a current author is included, which discusses how the canon of this genre has inspired him and guided his first attempt in dystopian composition.
The purpose of my thesis research was to examine the relationships among gender, sexual orientation, and attitudes about sexuality and gender beliefs. One hundred eighty-five participants completed questionnaires measuring attitudes toward men, women, and homosexual and trans-gendered individuals. It was found that males had a stricter adherence to gender roles and a more negative attitude toward homosexual and Trans individuals compared to female participants. It was also found that women had more favorable views toward homosexuals and Trans individuals as well as having a set of beliefs that were less adherent to traditional gender roles and also had more of a positive, egalitarian perspective on women’s gender roles in comparison with male participants. Many studies have examined attitudes toward gender and sexuality, but no other study has ever included all of these variables in conjunction with one another.

By including fairytale elements, Brontë creates a fictional environment in which Brontë can address and modify conventional Christianity. Jane's character appears to blend the real and fairytale elements, allowing her to create her own religious ideal, as she is not tied to either society or traditional religious beliefs because she is both fairy and human. Jane's ability to straddle these two worlds gives her the freedom to question traditional patriarchal religion and places her in a position of power. Published in 1847, this novel startled its audience with its questioning of religion, and I argue that Brontë uses fairytale elements to make the novel less realistic and, therefore, less offensive. By including fairytale elements, Brontë creates a fictional environment that provides both Brontë and Jane the autonomy to explore religion without societal pressures to conform.

The Hemlock Woolly Adelgid (HWA) is an invasive species of insect that feeds upon and destroys Eastern hemlock trees. After the HWA infects a region of Eastern hemlock trees, it takes anywhere from as little as 3 years to up to 10 years to see a decline in tree health and tree death (USDA 2005). The factors that are contributing to the rapid spread of the HWA must be analyzed to determine the most effective way to quell the spread. This has been done in this thesis through mathematical modeling, which is used to show real-world problems with computer simulations so that the mathematician can analyze factors that are contributing to the problem. This thesis has shown the spread of the HWA through a mathematical model that has analyzed the parameters to determine the factors that are contributing to the problem most, and has shown the minimum wave speed of spread.

Thesis Title: The Relationship between Gender Beliefs and Attitudes about Sexuality and Transgendered Individuals

Thesis Title: Modeling the Spread of the Hemlock Woolly Adelgid in Connecticut with a System of Partial Differential Equations

Thesis Title: Fairytale and Religion in Jane Eyre: The Merging of Spiritualities
**Brianna Janiak**  
Major: Mathematics  
Concentration: Elementary Education  
Plans to teach Elementary Education and pursue a Masters Degree in Secondary Education at ECSU  
**Thesis Title:** An Exposition of Bulgarian Solitaire  
My thesis looks at the mathematical problem known as Bulgarian Solitaire. This problem uses triangular numbers to show patterns of partitions. I wrote a program in C++ to replicate Bulgarian Solitaire, and used the program to track data of the over 600 partitions of the numbers one to fifteen. Upon studying the data, I was able to identify a few key patterns to the number of iterations needed to stabilize each partition. One of my findings involved the step prior to the fixed point in each partition and I stated the series as a conjecture for further proof.

**Marley Koschel**  
Majors: Psychology & Early Childhood Education  
Minor: Sociology  
Plans to attend Wheelock College Graduate Program  
**Thesis Title:** Videogames: Effects on Impulsivity, Anxiety, Risk Taking, and Physiological Reactivity  
The current study was designed to advance research on the relations between playing violent and non-violent videogames, impulsivity, and risk taking. It was hypothesized that participants playing a more violent videogame in a laboratory setting would display higher levels of impulsivity and risk taking than those who played less violent videogames. In addition, it was hypothesized that those who played a violent videogame in a laboratory setting would experience a greater increase in physiological reactivity, and a greater increase in anxiety, than those playing a less violent videogame. 30 participants completed a questionnaire measuring videogame play and anxiety, and impulsiveness. The Balloon Analogue Risk Task (Lejuez, et al., 2002) was completed before and after videogame play to assess risk taking, and blood pressure and heart rate were measured before and during video game play. Statistical comparisons were made before and after videogame play and between violent and non-violent games. No differences were found between groups or between pre- and post-game play in relation to game violence.

**Kyle Courtemanche**  
Major: Mathematics  
Minor: Secondary Education  
Pursue a career in Mathematics  
**Thesis Title:** An application of Markov Chains to a Cross and Circle Game  
Game play is equally dictated by chance and by personal choices. By using a mathematical tool called a Markov Chain and developing a transition matrix, the probabilities affecting these games were analyzed. Conclusions were drawn revealing average game length, the affects of having different amounts of players, and optimal winning strategies.

**Sebastian Gronback**  
Major: English  
Minor: Writing  
Plans a career as a Journalist  
**Thesis Title:** Preservation, Transformation, Commercialization: An Analysis of Shakespeare and Modern Film  
The impact that Shakespeare has left on the world is immense, and as the centuries have gone by, his stories and characters have remained touchstones, in the process undergoing many changes. While the mark of Shakespeare upon modern culture is incalculable, the effects of modern culture upon Shakespeare are easier to chart and just as interesting. With a specific focus upon Shakespearean film, that relationship is analyzed, dividing the genre into three general categories, represented by preservation in Kenneth Branagh’s *Henry V*, transformation in Akira Kurosawa’s *Ran*, and commercialization in Baz Luhrmann’s *Romeo + Juliet*. From the effects of shifting cultural climates, to the relationships audiences and filmmakers have with the material, to the various dramatic interpretations both here and abroad, this thesis examines and analyzes the place and importance of Shakespeare in modern filmic culture.
**Conrad Guthrie**  
Major: Biology  
Minor: English  
Plans a career in the field of Biological Sciences  

**Thesis Title:** An Investigation of Sex Allocation in Whiskered Tern  

Sex allocation theory asserts that females can alter the sex of their offspring when the overall fitness of one sex (male or female) is favored over the other. Typically, a 50/50 ratio is observed in “parents [that] invest the same in an average son as in an average daughter” (Trivers and Willard 1973). However, natural selection may lead to predictable deviations from the 50/50 sex ratio. Understanding the factors that influence natural selection and its effects on sex allocation has been a focus in the field of evolutionary biology. Sex ratio bias has been observed in various tern species. In my study, I investigated sex ratio in thirty families of whiskered tern (Childonias hybridus) for evidence of sex ratio bias. The central objective of my research was to contribute information on a species of bird “whose numbers fluctuate widely and have a scattered distribution…[and] should be studied to fill considerable gaps which [exist] in the knowledge of its biology” (Bakaria et al. 2002).

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**Rachel Hanrahan**  
Major: Health and Physical Education  

**Thesis Title:** The Effects of Physical Education on Classroom Behaviors of Preschool Students  

The aim of this study was to examine any existing correlation between behaviors of preschool students in their classroom environment, and the amount of physical education the students received weekly. About 30 preschool students who were enrolled in the Child and Family Development Resource Center were included in this study. The control group of students received physical education once a week for five weeks and the experimental group received physical education twice a week for five weeks. Before this physical education curriculum was started, baseline data were taken where classroom participation, conflict resolution, and peer cooperation were recorded and analyzed. This data collection method was then repeated once again after the conclusion of the physical education curriculum. These numbers were then compared by running t-tests, and while no definitive conclusions were found, this study explored a very interesting topic and provided a baseline for future research.

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**Laura Hilton**  
Major: Biology  
Minor: Anthropology  
Plans to attend Medical School  

**Thesis Title:** A Quantitative Analysis of Beta-amyloid Plaques in the Cingulate Gyrus of Alzheimer’s Patients  

Alzheimer’s Disease (AD) accounts for 60-80% of all dementia cases. The prevalence of AD is increasing annually, yet the mechanisms of the disease are not fully understood and no cure is available. One of the main pathological biomarkers of AD is deposits of plaques within brain tissue, which cause of AD and nerve cell injury in AD patients. My study focused on the distribution, quantity, and morphology (diffuse, moderate, or condensed) of A$\beta$ plaques in the cingulate gyrus of AD patients and their localization around blood vessels. Brain tissue sections from AD and control patients were stained for plaque deposits and examined using light microscopy. Plaques in AD patients were significantly greater in number and larger in size than in control patients. The prevalence of condensed plaques increased in patients further along in the disease. AD patients also revealed significantly more A$\beta$ plaques surrounding blood vessels than controls.

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**McKenzie Hyde**  
Major: Political Science  
Minor: Spanish, Peace and Human Rights  
Pursue a Master’s in International Development  

**Thesis Title:** Unraveling Sex Trafficking Policy in India: A Case Study of Political Discourse on Trafficking in India  

Sex trafficking has escalated throughout Asia and the world in the past few decades. It has become an increasingly large phenomenon in India due to the effects of globalization and widespread poverty and other various socioeconomic factors. Past research has studied factors that contribute to trafficking and increase vulnerability among victims. However, little research shows how policies aid in constructing the problem of trafficking. This presents a critical need for discerning the specific construction of anti-trafficking policies. Using a Critical Discourse Analysis, I examine the power relations among Indian culture that are endemic in the construction and perception of human trafficking policies in India. Studying political discourse in this way helps uncover structural inequalities shaping how human trafficking is perceived in India by the United Nations, the Indian Government, and Non-Governmental organizations.