Kyle Smith  
Saladin’s Jihad in the 12th Century  
Majors: History and Religious Studies  
Project Advisors: Stephen Lyons and Carl Olson

Molly Soffietti  
Bebop Jazz’s Neo-Expressionist Impulse in the Work of Jean-Michel Basquiat  
Major: Art History / Minor: Black Studies  
Project Advisor: Richard Schindler

Colin Soleim  
Automated Theorem Proving  
Major: Mathematics / Minor: French  
Project Advisor: Tamara Lakins

Ariel Statman  
Anchoring Energy of Liquid Crystals Doped with Azo-Dyes  
Major: Physics / Minor: Philosophy  
Project Advisors: Daniel Willey and David Statman

Josh Taylor  
Isolation and Characterization of the Extracellular Polymeric Substances of Haemophilus ducreyi  
Major: Biochemistry / Minor: Economics  
Project Advisor: Tricia Humphreys

Chad Ungarean  
Total Synthesis of Anti-Fouling Sesquiterpene Furan Natural Products and Analogues  
Major: Biochemistry / Minor: History  
Project Advisor: Shaun Murphree

Brigid Williams  
Angiotensin I Converting Enzyme (ACE) and Equine (Equus ferus caballus) Athletic Performance in Three-Day Eventing  
Major: Biology / Minor: Psychology  
Project Advisor: Ann Kleinschmidt

Kelly Williams  
“Away with Waste”: Using a Project-based Learning Module to Increase Environmental Literacy  
Major: Environmental Science / Minor: French  
Project Advisor: Thomas Eatmon

Aaron Zimmerman  
Photovoltaic Devices Using ABX3 Perovskites in an All-Solid State Sensitized Architecture  
Major: Physics / Minor: Economics  
Project Advisor: David Statman

HISTORY

Since the College’s first commencement in 1821, Allegheny students have showcased their exceptional academic achievements through a senior capstone experience of one kind or another. At times it involved an oral defense, at others a written thesis. The notion of a written Senior Project coupled with a comprehensive oral examination first appeared in the 1942 College Catalogue. In the 1970s, oral examinations shifted from a general defense of disciplinary expertise to a more focused verbal presentation of the Senior Project findings.

PREPARATION

The Senior Project provides students with an opportunity to integrate discipline-specific scholarship with the communication and research skills necessary for professionals in the 21st century. During their first year at Allegheny, students write, speak, and research frequently in their first-year seminars. By the sophomore year they are ready to undertake the complexities of writing and speaking in a specific discipline. They further hone these disciplinary communication skills in a junior seminar, the final preparatory phase for the Senior Project. By the senior year students are sufficiently prepared to undertake a scholarly endeavor approximating those experiences they will face as professionals in their field.

REALIZATION

The culminating experiences of the Senior Project are as varied as the disciplines that produce them, from recitals, performances, and exhibits to written and oral presentations on laboratory research. Many illustrate unusual combinations of disciplines, interests and skills. The Senior Project Celebration offers an open forum for students to present their projects, allowing seniors to refine their skills in presenting to a broad audience and share ideas with other students and the campus community.
In keeping with Allegheny’s commitment to provide students with a liberal arts education of high standards, the Senior Project is not a mere report or semester paper, but a significant piece of independent study, research or creative work conducted under the supervision of one or more faculty members. The outcome of a Senior Project is more than a grade or a written document; for the student it often results in a new way of looking at complex problems and inspires an appreciation for the power of ideas that might previously have seemed like abstract concepts in a textbook. Often it can be a pivotal moment when a student realizes his or her own abilities and potential.
<table>
<thead>
<tr>
<th>Name</th>
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<th>Major(s)</th>
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<th>Project Advisors</th>
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<tr>
<td>Ian Arturo</td>
<td>Metal Concentrations in Residential Burn Barrel Ash, Crawford County, PA</td>
<td>Environmental Studies / Minor: Values, Ethics &amp; Social Action</td>
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<td>Project Advisors: Rachel O’Brien and Caryl Waggett</td>
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<td>Katie Beck</td>
<td>Oh Freedom! Our Own Sounds: A Community-Based Theatre Piece with Bethel African Methodist Episcopal Church</td>
<td>Theatre / Minors: Values, Ethics &amp; Social Action and Writing</td>
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<td>Project Advisor: Beth Watkins</td>
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<td>Stephanie Blystone</td>
<td>A Comparison of Class I, II, and Leg Ulcer Haemophilus ducreyi Phagocytic Resistant Genes</td>
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<td>Project Advisor: Tricia Humphreys</td>
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<td>Connor Bratten</td>
<td>Analyzing the Effectiveness of Helper Pads in 3D Printing</td>
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<td>Project Advisors: Robert Roos and Janyl Jumadinova</td>
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<td>Ava Carvour</td>
<td>Escaping the Kennel and the Cage: The Female-Animal Comparison in Charlotte Bronte’s Jane Eyre and Anne Bronte’s The Tenant of Wildfell Hall</td>
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<td>Project Advisors: Barbara Shaw and Diane D’Amico</td>
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<td>Alexandria Ceschini</td>
<td>Plutonic and Volcanic Relationships of the Clark Creek Igneous Field, Northern Talkeetna Mountains, Alaska</td>
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<td>Dakota Dehn</td>
<td>The Restorative Impacts of Nature on Distributed Attention and Working Memory: An Eye-Tracking Analysis</td>
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<td>Diehl Edwards</td>
<td>Mother Mary and the White Man’s Li(n)es</td>
<td>English / Minor: Political Science</td>
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<td>Project Advisor: Matthew Ferrence</td>
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<td>Jacob Ford</td>
<td>An Investigation into the Josephus Problem</td>
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<td>Project Advisor: Anthony Lo Bello</td>
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<td>Eugenia Frank</td>
<td>I Am Not an Island: How Mainstream Mental Health Care Fails Low Income Women</td>
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<td>Project Advisors: Robert Hancock and Barbara Shaw</td>
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<td>Blair Hartman</td>
<td>The Implications of Our Trousers: Goddess and the Exploration of Gender in Performance</td>
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<td>Project Advisor: Beth Watkins</td>
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<td>Taylor Hinton</td>
<td>“Activism through Food”: Creating a Housing and Dining Cooperative at Allegheny College</td>
<td>Environmental Studies / Minor: English</td>
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<td>Project Advisors: Mark Neff and Kazi Joshua</td>
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<td>Nicole Hohman</td>
<td>La transformation de l’archétype du gamin de Paris via le personnage Gavroche dans les Misérables</td>
<td>French / Minor: Economics</td>
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<td>Project Advisor: Briania Lewis</td>
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<td>Ashley Hollenback</td>
<td>Domestic Violence Experience, Participant Sex, and the Acceptance of Domestic Violence Myths in College Students</td>
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<td>Project Advisors: Juvia Heuchert and Barbara Shaw</td>
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<td>Bridget Hubbard</td>
<td>Suffering and Self-Sacrifice in Ireland’s Collective Memory: The Hunger Strikes of Terence MacSwiney and Bobby Sands</td>
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<td>Project Advisor: Barry Shapiro</td>
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<td>Rachael Jander</td>
<td>Impact of Amyloid Beta in Relation to Early Alzheimer’s Pathology</td>
<td>Neuroscience / Minor: Chinese</td>
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<td>Matt Kelley</td>
<td>Dangerous Characters: The (Bio)Politics of Modern Man</td>
<td>Philosophy and Political Science</td>
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<td>Project Advisors: Eric Boynton and Zach Callen</td>
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<td>Anna Koebly</td>
<td>Accuracy of Spatial Models of Contributing Factors to Low Birth Weight in Pennsylvania</td>
<td>Environmental Science / Minors: Values, Ethics &amp; Social Action and Global Health Studies</td>
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<td>Project Advisors: Caryl Waggett and Chris Shaffer</td>
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<td>Lauren Krowitz</td>
<td>Levels of Athletic Involvement and Well-Being</td>
<td>Psychology / Minors: English and Communication Arts</td>
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<td>Project Advisor: Juvia Heuchert</td>
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Sarah Labarre
The Contemporary Situation of Prayer and Religious Practice in Healthcare: Current Research, Ethical Concerns and Future Implementation
Major: Religious Studies / Minor: Biology
Project Advisor: Glenn Holland

Cliff Lee
Invisible Race
Major: Art in Technology / Minor: Psychology
Project Advisor: George Roland and Sue Bucumber

Sarah Lerch
Educating a Gentleman: The Evolution of the Classical Education of the Antebellum Southern Male Planter Elite at South Carolina College, 1800-1860
Majors: History and Classical Studies
Project Advisors: Ian Binnington and Judson Herrman

Braden Licastro
Approximate Algorithmic Image Matching to Reduce Online Storage Overhead of User Submitted Images
Major: Computer Science / Minor: Economics
Project Advisors: Robert Roos and Gregory Kapfhammer

Stephanie Marchincin
Margaret Sanger: Birth Control Activist and Public Health Visionary
Major: History / Minor: Biology
Project Advisor: Paula Treckel

Caitlyn McNamee
Judicial Obedience to the Chevron Doctrine: A Strategic Analysis of Court Responses to EPA and SEC Decision-Making
Major: Political Science / Minors: Economics and Spanish
Project Advisor: Brian Harward

Paige Missel
Meadville Time Trade
Major: Values, Ethics & Social Action / Minor: Studio Art
Project Advisors: Zachary Callen and Don Goldstein

Rachel Moore
“A Grete and Strong Labourid Woman”: Margaret of Anjou, Guinevere, and the Fifteenth Century Virago
Majors: History and English
Project Advisors: Stephen Lyons and Jennifer Hellwarth

Heather Nelson
“Leading Ladies: An Examination of Gender Disparity in Hollywood” and “(her) story: a film”
Major: Communication Arts / Minors: Economics and English
Project Advisors: Michael Keeley, River Branch, and Joe Tompkins

Desiree Niccoli
Becoming the Bride of God: Conflicting Ideologies of Virginity and Motherhood During the Middle Ages
Major: English / Minor: History
Project Advisor: Jennifer Hellwarth

Rebecca Nowacki
Binding of Non-Sexually Transmitted Leg Ulcer Syndrome (LUS) Haemophilus ducreyi to Extracellular Matrix Protein Type I Collagen
Major: Biology / Minor: Psychology
Project Advisor: Tricia Humphreys

Vincent Palmer
Further Studies of Charge Transfer Induced Spin Transitions (CTIST) of [Fe(3,4,7,8-tetramethyl-1,10-phenanthroline)2][Ru(CN)6]2 through Electron Paramagnetic Resonance (EPR) Spectroscopy
Major: Physics / Minor: Environmental Writing
Project Advisor: Doros Petasis

Colleen Pegher
Truth and Lies in Nonfiction: An Analysis of Fabrications in Truman Capote’s In Cold Blood and James Frey’s A Million Little Pieces
Major: English / Minor: Political Science
Project Advisor: Ben Slote

Hannah Phillips
Choroid Plexus Target-Based Therapy in Rats with Chronic Hydrocephalus: Use of an Aquaporin-1 Antibody Treatment
Major: Neuroscience / Minor: Music Performance
Project Advisors: Jeffrey Cross and Jeffrey Hollerman

Holly Ramey
Crossfire of Narratives: Two Iraq War Novels and the Implications of War Literature
Major: English / Minor: Psychology
Project Advisors: Ben Slote and Alexis Hart

Lisa Roberson
The Emerging Threat of Terrorist Use of Small UAVs: A Threat Analysis
Major: Political Science / Minors: Spanish and Psychology
Project Advisors: Howard Tamashiro and Shanna Kirschner

Erin Roby
Behavioral Effects of Mefloquine, NMDA, and Dissociative Anesthetics on Schedule-Controlled Responding in the Rat
Major: Psychology / Minor: Spanish
Project Advisor: Rodney Clark

John Rooney
When and How to Strike: What Theory Can Learn from Action
Major: Political Science / Minor: Black Studies
Project Advisor: Andrew Blueser

Kaitlyn Shanahan
Observing Exercise-Induced Variations in Vascular Endothelial Growth Factor (VEGF) in Adult Patients with Venticulomegaly: A Pilot Study
Major: Neuroscience / Minor: Spanish
Project Advisors: Jeff Cross and Jeff Hollerman

Ion Simonides
Sandstone Petrography if Middle to Upper Devonian Foreland Basin Fill in the Catskill Front, Southeastern New York
Major: Geology / Minor: History
Project Advisor: Ron Cole

Paige Slaughter
Rebel and Cell: Spaces of Oppression and the Power of Testimony in Revolutionary Spain
Majors: Philosophy and Spanish / Minor: Values, Ethics & Social Action
Project Advisors: Eric Palmer and Teresa Herrera