9:30 am – 10:45 am

**Aviation 485: Senior Capstone**  
Instructors: Mark Dusenbury & Philip Brandt

**RNAV Approaches**  
Sadie Stover, Dinusha Gunarathna, Jordan Delaney, Moses Kirubi, Austyn Schlueter

**Circular Runways**  
Nathan Bauer, Elijah Kanuha, Jonathan Shaide, Jennifer Booth, Ryan Phillips

**Is Essential Air Service necessary?**  
Dillon Schroder, Mick Kmett, Garrett Stucki, Jeloni Hudson, Adam Demoulas

**Radiation in the Cockpit**  
Abigail Jarve, Dakotah Osborn, Jordan Bergerson, Collin Senglaub, Seth Baker

**Airport Security Screening**  
Grant Johnson, Dustin Lenz, Gavin Leach, Sanseong Hwang

**ADSB**  
Kevin Kennedy, Bryan Quintero, Nick Brown, Kevin Buteau, Robert Silvey

**Al in the Flight Deck**  
Jonathan Wescott, Nick Kennedy, Nicholas Whiting, Nikolai Dunne, Sungmo Koo

**Cellestial Navigation should be taught as a back up form of navigation**  
Matthew Layden, Kyle Haines, Josh Jansen, Brendan Korringa

**SSBJs**  
Carl Wisherd, Anna Konietzko, Luke Jablonski, Jacob Gotten, Preston Kubas
ADSB
Jon Sorenson, Mitch Breuer, Andrew Werle, Seth Hovland

Pushing Back Retirement Age for Carriers
Keaton McNew, Olivier Arnould, Benjamin Jahnke, Ryan Nickell, Alexander Anderson

CHEM 492: Senior Research
Instructor: Qianli Chu

Exploring Efficiency in Photoreacting
Benjamin Nelson

The Synthesis of a Two-Dimensional Polymer
Jenna Puttkammer

ENGL 415: Satire Restoration to Revolution
Instructor: Sheryl O’Donnell

Pamela Shamela
Natasha Puetz

The Seductive and the Satirical within Margaret Cavendish’s The Convent of Pleasure
Robin Smith

Math 488: Senior Capstone
Instructor: Bruce Dearden

The Fundamental Theorem of Calculus Pedagogy
Gretta Brunelle

Finding Areas with the Fundamental Theorem of Calculus
Brittany Scheer

Calculus with Infinitesimals
Seth Glasser

The Most Important Statistics in Football
Jacob Holmen

Improving the Problem with Problem Solving
Cole Thibert

Deciphering Hematopoietic Gene Regulation Using High Throughput Data and a Mathematical Model
Ejazul Haque

Factoring of Real Coefficient Polynomials
Hannah Whitehead
Gödel's Incompleteness Theorem through Logic Problems
Emma Buntrock

Statistical Decision Making in Video Game Development
Alexander Burton

Undergraduate Research in Atmospheric Science
Instructor: David Delene

Size Distribution and CCN Activation Size of Bacteria Ghosts
Alexa Otto

11:00 am – 12:15 pm

CHEM 492: Senior Research
Instructor: Alena Kubatova

Unmanned Aircraft as a Tool for Localized Sampling of Carbonaceous Particulate Matter
Tyson Berg

CHEM 492: Senior Research
Instructor: Qianli Chu

Synthesis and Photo-Dimerization of Ethyl 3 (furan-2-yl)prop-2-enoate
Mark Scheuring

Graphene Oxide-based Biocompatible 3D Mesh with a Tunable Porosity and Tensility for Cell Culture
Eric Schepp

Chemical Engineering 493A: Senior Project
Instructor: Wayne Seames

Microalgae Oil Extraction
Jasmine Kreft

Dynamic facades toward greener energy efficient buildings
Rayce Martin

Direct Absorption Nanoparticles for Efficient Solar Energy Utilization
Trevor Seidel

ENGL 415: Satire Restoration to Revolution
Instructor: Sheryl O'Donnell

From Stage to Stand-Up: Who's in on the joke?
Makayla Valdez

The Dialetics of Colonization: Caricatures in Robinson Crusoe
Yashari Nunez

‘three takes on pirates’
Kristof Larsen
**MATH 488: Senior Capstone**  
**Instructor:** Bruce Dearden

**Analytics and Baseball’s New Age**  
John Roche

**Studying the Curved Spacetime Surrounding Massive & Chargeless Bodies**  
Elijah Mathews

**Quantile Regression approximating slope coefficients**  
Thomas Devine

**Predicting Student Success using Artificial Neural Networking**  
Suzanne Voce

**Farkle-like Games**  
Karlee Westrem

**12:30 pm – 1:45 pm**

**CHEM 492: Senior Research**  
**Instructor:** Alena Kubatova

**Characterization of Lignin and It’s Degradation Product**  
Kathryn Furey

**Lignin Fractionation Composition**  
Sarah Reagen

**ENG 415: Satire Restoration to Revolution**  
**Instructor:** Sheryl O’Donnell

**A rise to women’s freedom; Snapping a revolution**  
Rhea Goulet

**MATH 488: Senior Capstone**  
**Instructor:** Bruce Dearden

**The Mathematical Incompatibilities of General Relativity and Quantum Mechanics**  
Lane Kashur

**Classification of Equilibrium Points in Systems of Coupled Differential Equations**  
Joe Kitzman

**SOC 475: Sociology Capstone**  
**Instructor:** Daphne Pedersen

**Emergency Department Visits and Opioid Use**
Alexandra Sonnek

**Does Contact Influence Attitudes about Disability?**
Haylee Pearce

**Victim and Offender Characteristics in Homicide Cases**
Sage Ballantyne

**Women in Police Gang Units**
Haeli Wolf

**Prosecutors’ Responses When Children are Exposed to Domestic Violence**
Savanna Baumgartner

**Greek Life, College Athletics, and Campus Sexual Assault**
Ashley Schoenborn

**Marital Satisfaction and Division of Household Labor in Dual Income Families**
Jack Breen

**Divorce and Children’s Alcohol Consumption**
Eric McKay

**Political Polarization in the United States**
Joseph Iverson

**Intergroup Contact and Racial Attitudes of Whites**
Halle Monteith

**Parents, Peers and Drug Useage**
Ashley Glass

**Present and Future Economic Outlook on Men and Women**
Ilana Foust-Leibowitz

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2:00 pm – 3:15 pm

**AVIT 485: Aviation Capstone**
Instructor: Brett Venhuizen

**Pilots and Mental Illness**
Troy Running, Reo Nakamoto, Russ Nelson, Michael Carpenter

**Optimal Runway Configuration**
Josef Meyer, Jesse Thompson, John Cahill, Neil Elias

**UAS Intergration**
Tyler Pekarske, Luke Gage, Sawyer Murray

**Economic differences of turbo prosbs vs turbo jets and their prevalence in the industry**
Alex Markovic, Andrew Snyder, Christian Raniey, Daniel Grape
ADS-B and Transponders in UAS
Michael Arant, Travis Novey, Austin Spores, Egan Rzonca, Justin Hansen

R-ATP
Curtis Oberbroeckling, Ted Fosselman, Vince Gennarelli, Garrett Reid-Storm

ICAO Standard Multicrew Pilots License in the US
Christopher O’Connell, Joe Moriarty, Michael Corcoran, Jacob Cuda

Manned vs. Unmanned Commercial Aviation
Davis Cieslinski, Kelly Barnhard, Baylee Ladner, Ember Willard

Privatization of Airport Security
Mario Nardoni, Mark Lacy, Bryson Vega, Weston Brickman, Paul Madsen

ENGL 415: Satire Restoration to Revolution
Instructor: Sheryl O’Donnell

The Art of Seduction
Lizzie Andrews

Satire: Restoration to Revolution
Sheilan Hamasoor

Satire: Restoration to Revolution
Emily Motin

Satire: Restoration to Revolution
Cullen Tolkinen

Math 488: Senior Capstone
Instructor: Bruce Dearden

Flipped Geometry Classrooms
Charlotte Woods

Teaching Related Rates, Product Rule Proof, and an Activity
Daniel Malone

Derivation of the Master Equation and Its Applications
Joshua Jacobs

Music 444: Applied Instrumental Pedagogy
Instructor: Dr. Lisa Bost-Sandberg

Production of Extended Techniques on the Flute
12:30-1:45pm
Performances/Presentations by Individual Music Lesson students
River Valley Room

Work Presented: Tango Virtuoso
Composer: T. Escaich (b. 1965)
Performers/Presenter:
Jacob Schettler, soprano saxophone
Ariel Groh, alto saxophone
Michaela Meland, tenor saxophone
Sadie Cochrane, baritone saxophone
Class: Individual Music Lessons
Instructor: Dr. Scott Sandberg

Work Presented: Trombone Concerto
Composer: E. Gregson (b. 1942)
Performers/Presenter:
Paul Murray, trombone
Matthew Sebald, piano
Class: Individual Music Lessons
Instructor: Dr. Joel Pugh

Work Presented: Blue Skies from Betsy
Composer: I. Berlin (1888-1989)
Performers/Presenter:
Rachael Schiller, soprano
Mr. Keith Teepen, piano
Class: Individual Music Lessons
Instructor: Dr. Anne Christopherson

Work Presented: “Prelude” from Suite No.2 for Solo Cello in D minor
Composer: J. S. Bach (1685-1750)
Performers/Presenter:
Zephaniah Pearlstein, cello
Class: Individual Music Lesson
Instructor: Dr. Simona Barbu

Work Presented: “Allegro” from Flute Concerto
Composer: J. Ibert (1890-1962)
Performers/Presenter:
Sarah Curtiss, flute
Matthew Lorenz, piano
Class: Individual Music Lessons
Instructor: Dr. Lisa Bost-Sandberg

Work Presented: “Tou gai!” from 5 Mélodies populaires grecques
Composer: M. Ravel (1875-1937)
Performers/Presenter:
Michael Thompson, tenor
Jonas Fisher, piano
Class: Individual Music Lessons
Instructor: Dr. Royce Blackburn

Work Presented: Mephisto Waltz No.1
Composer: F. Liszt (1810-1886)
Performers/Presenter:
Fangyuan Su, piano
Class: Individual Music Lessons
Instructor: Dr. Nariaki Sugiura

Work Presented: Magnificat “Quia respexit”
Composer: J. S. Bach (1685-1750)
Performers/Presenter:
Haley Olson, soprano
Mr. Keith Teepen, piano
Class: Individual Music Lessons
Instructor: Dr. Anne Christopherson