Dear Class of 2022:

WELCOME TO THE UNIVERSITY OF MINNESOTA!

Undoubtedly, you have seen the words “Driven to Discover” around campus and noticed the “What Drives You?” posters. It’s our way of expressing what we stand for at the U of M. The University is about discovery – the discovery of a brain cap that makes it possible to control computers with only your mind, the discovery that bacteria can generate electricity, or the discovery of new technology, such as the robots designed to protect troops from harm. But discovery at the U is also about the discovery you are embarking on to find your place in the world – who you are, what you value, what you aspire to be. We are here to help you with these important discoveries.

This booklet will introduce you to an exciting array of small courses designed just for you, the Class of 2022. Studies from around the country have repeatedly shown that students do well in college and enjoy the experience more when they get to know faculty members and other students. Freshman Seminars are designed to help you do just that. They are limited to 15 to 20 students, so you will have a real opportunity to get to know other students in your class and to interact with a faculty member who will guide you and help you make the adjustment to college.

This is a wonderful opportunity to explore new areas or to test your interest in something you might eventually choose as a major. There are no prerequisites for any of these courses – except a willingness to learn, participate, and be open to new ideas and approaches. If you are in the University Honors Program, any Freshman Seminar you take will also count as an Honors experience.

So open your mind, explore the richness the University has to offer, learn what drives our faculty, and discover what drives you!

Leslie Schiff
Associate Dean for the University Curriculum
Office of Undergraduate Education
What is a Freshman Seminar?
A Freshman Seminar is a small, discussion-oriented class that is designed just for first-year students. Faculty who teach Freshman Seminars have developed each class around their particular interests, and students are able to learn in a small class environment from an expert in the field.

What to expect in a Freshman Seminar:

- A small class (15-20 students) of first-year students where it is easier to talk, participate, and engage in class discussions
- Faculty who create these courses specifically for first-year students and are excited about the subject
- An opportunity to work with faculty who will help you better understand how to succeed academically at the University of Minnesota

Tips for success in a Freshman Seminar (and all your classes!):

- Come to class prepared with readings and assignments completed
- Express your thoughts and opinions by participating in group discussions
- Visit your professor during office hours
- Get to know your classmates
- Ask plenty of questions

If you have questions about any of the Freshman Seminars, contact the academic advisor.

How to Search Online for Freshman Seminars

1. Log onto MyU (myu.umn.edu) and click on the Academics tab.
2. Under Planning, select Class Search.
3. Once you have entered Class Search, verify that Twin Cities/Rochester is selected in the Institution field. Then choose either Fall 2018 or Spring 2019 in the Term field.
   - Note: Freshman seminars are unique because you can register for a spring semester course at the same time as you’re registering for your fall courses. Make sure to check out both Fall 2018 and Spring 2019 for freshman seminars that interest you!
4. Then, in the Course Attribute field, select Freshman Seminar.
5. At this point, if you click Search, you will get a list of all freshman seminars being offered during the selected semester. It is helpful to select Show Open Classes Only if you only want to view courses that still have available seats. If you are interested in putting your name on a wait list for a course, do not select Show Open Classes Only. In order to narrow down your results, you can also use the Additional Search Criteria section to find seminars that fit into certain time slots or are taught by specific instructors, etc.
6. After you have generated a list of seminars that fit your desired parameters, you can click on the section or class number to view more details about the class, including a brief description.
7. To register for a seminar, click Select on the right hand side of the course information and follow the instructions to add it to your Enrollment Shopping Cart.
Freshman Seminars Abroad

Several of the Freshman Seminars listed in this booklet also include a study abroad opportunity. Freshman Seminars Abroad are a great introduction to studying abroad! These seminars combine on-campus instruction during spring semester 2018 with a study abroad component over spring break. You will receive three credits for a Freshman Seminar Abroad, and many fulfill a liberal education requirement.

To participate, apply through the Learning Abroad Center. There are deadlines to register for Freshman Seminars Abroad. For more information, visit: http://www.umabroad.umn.edu/programs/fsa.php or contact Lindsey Lahr at lahr0039@umn.edu or 612-625-9370.

Spring 2019 Freshman Seminars Abroad:

AHS 1901: Health in the Tropics: Humans, Animals, and Ecosystems, page 12
Karin Hamilton, Veterinary Population Medicine
Study Abroad in Panama

BIOL 1906: Tradition and Innovation in Iceland, page 17
John Ward, Plant Biology
Study Abroad in Iceland

DES 1406W: Design in London and Edinburgh, page 26
James Boyd Brent, Graphic Design
Study Abroad in England and Scotland

EDHD 1909W: Galileo on Trial in Italy, page 28
Laura Coffin Koch, College of Education and Human Development
Study Abroad in Italy

FW 1901: Coral Reef Management in Belize, page 31
Jim Perry; Fisheries, Wildlife, and Conservation Biology
Study Abroad in Belize

GER 1911W: Film, Art, and Politics: Historic Berlin, page 32
Leslie Morris; German, Scandinavian, and Dutch
Study Abroad in Germany

MKTG 1916: Happily Ever After? Brands and Storytelling in Ireland, page 36
Julia Van Etten, Marketing
Study Abroad in Ireland
<table>
<thead>
<tr>
<th>Designator</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEM 1301</td>
<td>Ballooning: Design, Build, and Fly</td>
</tr>
<tr>
<td>AEM 1303</td>
<td>Aircraft: Design, Build, and Fly</td>
</tr>
<tr>
<td>AFRO 1911</td>
<td>Black Reality Television</td>
</tr>
<tr>
<td>AFRO 1917</td>
<td>Inequality and the American Dream</td>
</tr>
<tr>
<td>AGRO 1902</td>
<td>A Field Guide for Spotting Bad Science in Daily Life</td>
</tr>
<tr>
<td>AHS 1901</td>
<td>Global Health in Panama: Humans, Animals, and Ecosystems</td>
</tr>
<tr>
<td>ALL 1911W</td>
<td>Mind and Muscle: Philosophy and the Martial Arts</td>
</tr>
<tr>
<td>ALL 1912</td>
<td>Fashioning Islam in Literature and Culture</td>
</tr>
<tr>
<td>AMIST 1911</td>
<td>Asian Americans and Food</td>
</tr>
<tr>
<td>ANTH 1911W</td>
<td>Changing Human Adaptations</td>
</tr>
<tr>
<td>ANTH 1914W</td>
<td>From “O Brother Where Art Thou?” to “12 Years a Slave”: American Cinema and American Roots Music</td>
</tr>
<tr>
<td>ANTH 1917</td>
<td>Inequality and the American Dream</td>
</tr>
<tr>
<td>ARTH 1912</td>
<td>Truth and Lies: Comparing Theories of the Image</td>
</tr>
<tr>
<td>ARTS 1911</td>
<td>BioArt: Culturing Life</td>
</tr>
<tr>
<td>ARTS 1912</td>
<td>Art and Yoga</td>
</tr>
<tr>
<td>AST 1910</td>
<td>The Ultimate Questions</td>
</tr>
<tr>
<td>BIOL 1906</td>
<td>Tradition and Innovation in Iceland</td>
</tr>
<tr>
<td>BIOL 1911</td>
<td>Curing Cancer</td>
</tr>
<tr>
<td>BIOL 1912</td>
<td>Photographing the University Community</td>
</tr>
<tr>
<td>BIOL 1913</td>
<td>Understanding the Evolution-Creationism Controversy</td>
</tr>
<tr>
<td>BIOL 1915</td>
<td>Genomics in Your Current and Future Life</td>
</tr>
<tr>
<td>BIOL 1916</td>
<td>Visualizing Results</td>
</tr>
<tr>
<td>BIOL 1917</td>
<td>Experimental Evolution</td>
</tr>
<tr>
<td>BIOL 1918</td>
<td>Evolutionary Perspectives on Agriculture and Human Health</td>
</tr>
<tr>
<td>BIOL 1919</td>
<td>Native Plants and Native Foods</td>
</tr>
<tr>
<td>BIOL 1920</td>
<td>Biology at the Movies</td>
</tr>
<tr>
<td>BIOL 1921</td>
<td>The Nexus Between Art and Biology</td>
</tr>
<tr>
<td>BIOL 1922</td>
<td>You Contain Multitudes: Living in the Age of the Microbiome</td>
</tr>
<tr>
<td>BIOL 1923</td>
<td>Fake! The Value of Authenticity</td>
</tr>
<tr>
<td>BIOL 1942</td>
<td>Science and Politics of Genetics and Reproduction</td>
</tr>
<tr>
<td>CFAN 1902</td>
<td>Ways of Knowing and Science</td>
</tr>
<tr>
<td>CFAN 1911</td>
<td>Native American Ways of Knowing the Environment</td>
</tr>
<tr>
<td>CHEM 1906</td>
<td>Probing Chemical Systems with Molecular Simulations</td>
</tr>
<tr>
<td>CHEM 1907</td>
<td>Chemistry in the Kitchen</td>
</tr>
<tr>
<td>CHEM 1911W</td>
<td>Quantum Mechanics and Popular Philosophy</td>
</tr>
<tr>
<td>CHIC 1912</td>
<td>Performing Latina/o/x Identities: Media, Art, and Popular Culture</td>
</tr>
<tr>
<td>CI 1942</td>
<td>Social Media and the Changing Nature of Interaction</td>
</tr>
<tr>
<td>CI 1943W</td>
<td>Science, Technology, and Society</td>
</tr>
<tr>
<td>CLA 1911W</td>
<td>Issues in 21st Century America: Diverse Christian Perspectives</td>
</tr>
<tr>
<td>CNES 1911</td>
<td>Silencing the Gods: Divine and Human in the Hebrew Bible</td>
</tr>
<tr>
<td>CNES 1913</td>
<td>Homer’s Odyssey and Politics</td>
</tr>
<tr>
<td>COMM 1913</td>
<td>Religious Arguments</td>
</tr>
<tr>
<td>COMM 1914</td>
<td>Food, Media, and Culture</td>
</tr>
<tr>
<td>COMM 1915</td>
<td>Selfies: Media and the Culture of Me</td>
</tr>
<tr>
<td>CSCI 1905</td>
<td>Survey of Applied Computer Science Using Computer Games</td>
</tr>
<tr>
<td>DES 1401</td>
<td>Beyond the Suburbs: Living and Working in Rural America</td>
</tr>
<tr>
<td>DES 1402</td>
<td>Homelessness: Understanding the Issues and Proposal Solutions</td>
</tr>
<tr>
<td>DES 1405W</td>
<td>Building Vision</td>
</tr>
<tr>
<td>DES 1406W</td>
<td>Design in London and Edinburgh</td>
</tr>
<tr>
<td>DES 1407</td>
<td>Fashion and Feminism: Dressing for Change</td>
</tr>
<tr>
<td>DNCE 1911</td>
<td>Stories, Bodies, Border-Crossings</td>
</tr>
<tr>
<td>DNCE 1914</td>
<td>Latinos Moves: The Politics of Salsa, Race, and Migration</td>
</tr>
<tr>
<td>DTCH 1911</td>
<td>Anne Frank: Her Life and Legacy</td>
</tr>
<tr>
<td>EDHV 1909W</td>
<td>Galileo on Trial in Italy</td>
</tr>
</tbody>
</table>
## 2018-19 Seminars Alphabetical by Designator, continued

### Seminars by Interest Area

#### Arts

<table>
<thead>
<tr>
<th>Designator</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 1911</td>
<td>BioArt: Culturing Life</td>
</tr>
<tr>
<td>ARTS 1912</td>
<td>Art and Yoga</td>
</tr>
<tr>
<td>BIOL 1912</td>
<td>Photographing the University Community</td>
</tr>
<tr>
<td>BIOL 1921</td>
<td>The Nexus Between Art and Biology</td>
</tr>
<tr>
<td>CHIC 1912</td>
<td>Performing Latina/o/x Identities: Media, Art, and Popular Culture</td>
</tr>
<tr>
<td>DNCE 1911</td>
<td>Stories, Bodies, Border-Crossings</td>
</tr>
<tr>
<td>MUS 1915</td>
<td>The Color of Music</td>
</tr>
<tr>
<td>PHIL 1916</td>
<td>What’s So Great About Classical Music?</td>
</tr>
<tr>
<td>SPAN 1911</td>
<td>U.S. Latino/Latina American Theaters and Cultural Studies</td>
</tr>
<tr>
<td>TH 1911W</td>
<td>Attending (to) Theater</td>
</tr>
<tr>
<td>TH 1913</td>
<td>The Great Actresses and Divas of Theatre, Films, Opera, and Musicals</td>
</tr>
<tr>
<td>TH 1914</td>
<td>Cyborgs and Hackers: The Ethics of Digital Life</td>
</tr>
<tr>
<td>TH 1915</td>
<td>The Dynamic History of Musical Theatre: From the Fairy Queen to Les Mis to Hamilton</td>
</tr>
</tbody>
</table>

#### Biological and Environmental Sciences

<table>
<thead>
<tr>
<th>Designator</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHS 1901</td>
<td>Global Health in Panama: Humans, Animals, and Ecosystems</td>
</tr>
<tr>
<td>BIOL 1911</td>
<td>Curing Cancer</td>
</tr>
<tr>
<td>BIOL 1913</td>
<td>Understanding the Evolution-Creationism Controversy</td>
</tr>
<tr>
<td>BIOL 1915</td>
<td>Genomics in Your Current and Future Life</td>
</tr>
<tr>
<td>BIOL 1916</td>
<td>Visualizing Results</td>
</tr>
<tr>
<td>BIOL 1917</td>
<td>Experimental Evolution</td>
</tr>
<tr>
<td>BIOL 1918</td>
<td>Evolutionary Perspectives on Agriculture and Human Health</td>
</tr>
<tr>
<td>BIOL 1919</td>
<td>Native Plants and Native Foods</td>
</tr>
<tr>
<td>BIOL 1922</td>
<td>You Contain Multitudes: Living in the Age of the Microbiome</td>
</tr>
<tr>
<td>BIOL 1923</td>
<td>Fake! The Value of Authenticity</td>
</tr>
<tr>
<td>CFIN 1911</td>
<td>Native American Ways of Knowing the Environment</td>
</tr>
<tr>
<td>ENT 1902</td>
<td>Bugs in Bodies: Forensic Entomology</td>
</tr>
<tr>
<td>ESCI 1902</td>
<td>Geology of Minnesota</td>
</tr>
<tr>
<td>ESCI 1904</td>
<td>Astrobiology: The Science of the Search for Life on Other Planets</td>
</tr>
<tr>
<td>ESCI 1907</td>
<td>Caves and Karst: Rocks, Water, and Human Impact</td>
</tr>
<tr>
<td>FSCN 1905</td>
<td>Antioxidants: How They Protect Your Food and Body</td>
</tr>
<tr>
<td>FW 1901</td>
<td>Coral Reef Management in Belize</td>
</tr>
<tr>
<td>GEOG 1911</td>
<td>Digital Earth</td>
</tr>
<tr>
<td>HORT 1901</td>
<td>The Ten Plants That Changed Minnesota</td>
</tr>
</tbody>
</table>
### Seminars by Interest Area, continued

#### Biological and Environmental Sciences, continued

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT</td>
<td>Buzz: How Plants Enrich Our Lives</td>
<td>34</td>
</tr>
<tr>
<td>LING</td>
<td>Linguistics and Biology</td>
<td>35</td>
</tr>
<tr>
<td>PHYS</td>
<td>Global Warming Solutions</td>
<td>37</td>
</tr>
<tr>
<td>PLPA</td>
<td>Sequence Plants, Pets, and Pathogens: The Genomics of Non-Humans</td>
<td>39</td>
</tr>
</tbody>
</table>

#### Business

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT</td>
<td>When It Hits the Fan: Business, Crisis Communication, and Social Media in a Risky World</td>
<td>36</td>
</tr>
<tr>
<td>MKTG</td>
<td>Happily Ever After? Brands and Storytelling in Ireland</td>
<td>36</td>
</tr>
</tbody>
</table>

#### Culture and People

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRO</td>
<td>Black Reality Television</td>
<td>10</td>
</tr>
<tr>
<td>ALL</td>
<td>Fashioning Islam in Literature and Culture</td>
<td>13</td>
</tr>
<tr>
<td>AMST</td>
<td>Asian Americans and Food</td>
<td>14</td>
</tr>
<tr>
<td>CHEM</td>
<td>My Other Car is a Bicycle</td>
<td>21</td>
</tr>
<tr>
<td>CI</td>
<td>Social Media and the Changing Nature of Interaction</td>
<td>22</td>
</tr>
<tr>
<td>COMM</td>
<td>Religious Arguments</td>
<td>24</td>
</tr>
<tr>
<td>COMM</td>
<td>Food, Media, and Culture</td>
<td>24</td>
</tr>
<tr>
<td>COMM</td>
<td>Selfies: Media and the Culture of Me</td>
<td>24</td>
</tr>
<tr>
<td>DES</td>
<td>Beyond the Suburbs: Living and Working in Rural America</td>
<td>25</td>
</tr>
<tr>
<td>DES</td>
<td>Design in London and Edinburgh</td>
<td>26</td>
</tr>
<tr>
<td>DES</td>
<td>Fashion and Feminism: Dressing for Change</td>
<td>26</td>
</tr>
<tr>
<td>DTC</td>
<td>Anne Frank: Her Life and Legacy</td>
<td>27</td>
</tr>
<tr>
<td>EDHD</td>
<td>Galileo on Trial in Italy</td>
<td>28</td>
</tr>
<tr>
<td>FDSS</td>
<td>An Eater’s Guide to the Food System</td>
<td>31</td>
</tr>
<tr>
<td>GWSS</td>
<td>The Split: A Black Feminist Oracle</td>
<td>32</td>
</tr>
<tr>
<td>GWSS</td>
<td>Food Justice: Bicycles, Urban Gardens, and the Environment</td>
<td>32</td>
</tr>
<tr>
<td>HIST</td>
<td>Food, Wine, and Sport in the Creation of French Identity</td>
<td>33</td>
</tr>
<tr>
<td>HIST</td>
<td>The Black Death: Plague in History</td>
<td>33</td>
</tr>
<tr>
<td>HISC</td>
<td>Campus Obscura: A University of Minnesota Cabinet of Curiosities</td>
<td>34</td>
</tr>
<tr>
<td>MUS</td>
<td>Music in Nazi Germany</td>
<td>36</td>
</tr>
<tr>
<td>WRIT</td>
<td>Arguing with Authority: The Past, Present, and Future of Higher Education</td>
<td>43</td>
</tr>
<tr>
<td>WRIT</td>
<td>Magazines and New Media</td>
<td>43</td>
</tr>
</tbody>
</table>

#### Humanities and Social Sciences

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRO</td>
<td>Inequality and the American Dream</td>
<td>11</td>
</tr>
<tr>
<td>ALL</td>
<td>Mind and Muscle: Philosophy and the Martial Arts</td>
<td>13</td>
</tr>
<tr>
<td>ANTH</td>
<td>Inequality and the American Dream</td>
<td>11</td>
</tr>
<tr>
<td>ANTH</td>
<td>Changing Human Adaptations</td>
<td>14</td>
</tr>
<tr>
<td>ARTH</td>
<td>Truth and Lies: Comparing Theories of the Image</td>
<td>15</td>
</tr>
<tr>
<td>CI</td>
<td>Science, Technology, and Society</td>
<td>23</td>
</tr>
<tr>
<td>CLA</td>
<td>Issues in 21st Century America: Diverse Christian Perspectives</td>
<td>23</td>
</tr>
<tr>
<td>DES</td>
<td>Homelessness: Understanding the Issues and Proposal Solutions</td>
<td>25</td>
</tr>
<tr>
<td>DES</td>
<td>Building Vision</td>
<td>26</td>
</tr>
<tr>
<td>GWSS</td>
<td>Inequality and the American Dream</td>
<td>11</td>
</tr>
<tr>
<td>HIST</td>
<td>Inequality and the American Dream</td>
<td>11</td>
</tr>
<tr>
<td>LING</td>
<td>Invented Languages</td>
<td>35</td>
</tr>
<tr>
<td>PHIL</td>
<td>The Philosophy of Food: You Are What You Eat,... Or Are You?</td>
<td>37</td>
</tr>
<tr>
<td>RELS</td>
<td>Islam in America: A History of the Present</td>
<td>41</td>
</tr>
<tr>
<td>SLHS</td>
<td>Diversity in Social Communication</td>
<td>41</td>
</tr>
<tr>
<td>STAT</td>
<td>Big Data for the Social Good</td>
<td>42</td>
</tr>
</tbody>
</table>
### Literature and Film

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNES 1911</td>
<td>Silencing the Gods: Divine and Human in the Hebrew Bible</td>
</tr>
<tr>
<td>ANTH 1914W</td>
<td>From &quot;O Brother Where Art Thou?&quot; to &quot;12 Years a Slave&quot;: American Cinema and American Roots Music</td>
</tr>
<tr>
<td>BIOL 1920</td>
<td>Biology at the Movies</td>
</tr>
<tr>
<td>ENGL 1915</td>
<td>Poetry and Poetic Form</td>
</tr>
<tr>
<td>ENGL 1916</td>
<td>Wilde Nineties</td>
</tr>
<tr>
<td>GER 1911W</td>
<td>Urban Space and Visual Culture in Berlin</td>
</tr>
</tbody>
</table>

### Politics and Government

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1942</td>
<td>Science and Politics of Genetics and Reproduction</td>
</tr>
<tr>
<td>CNES 1913</td>
<td>Homer's Odyssey and Politics</td>
</tr>
<tr>
<td>DNCE 1914</td>
<td>Latinx Moves: The Politics of Salsa, Race, and Migration</td>
</tr>
<tr>
<td>ENGL 1912</td>
<td>America in Crisis</td>
</tr>
<tr>
<td>POL 1911</td>
<td>Communism, Islamism, and Democracy in Central Asia</td>
</tr>
<tr>
<td>POL 1914</td>
<td>Generation Now: Young Adult Political Action in America</td>
</tr>
<tr>
<td>PSY 1921</td>
<td>Uncovering “Fake” News: Deciphering Science in the Media</td>
</tr>
</tbody>
</table>

### Psychology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPSY 1905</td>
<td>Beginner’s Chess and 21st Century Skills</td>
</tr>
<tr>
<td>JOUR 1911</td>
<td>The Symbolic Meaning of Money and Property</td>
</tr>
<tr>
<td>JOUR 1912</td>
<td>The Art and Science of Persuasion</td>
</tr>
<tr>
<td>PSY 1911</td>
<td>Psychological Perspectives of Women and Work</td>
</tr>
<tr>
<td>PSY 1912</td>
<td>What is the Human Mind?</td>
</tr>
<tr>
<td>PSY 1916</td>
<td>Race in Everyday Space</td>
</tr>
</tbody>
</table>

### Science and Technology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEM 1301</td>
<td>Ballooning: Design, Build, and Fly</td>
</tr>
<tr>
<td>AEM 1303</td>
<td>Aircraft: Design, Build, and Fly</td>
</tr>
<tr>
<td>AGRO 1902</td>
<td>A Field Guide for Spotting Bad Science in Daily Life</td>
</tr>
<tr>
<td>AST 1910</td>
<td>The Ultimate Questions</td>
</tr>
<tr>
<td>AST 1911</td>
<td>Nothing</td>
</tr>
<tr>
<td>BIOL 1906</td>
<td>Tradition and Innovation in Iceland</td>
</tr>
<tr>
<td>CFAN 1902</td>
<td>Ways of Knowing and Science</td>
</tr>
<tr>
<td>CHEM 1906</td>
<td>Probing Chemical Systems with Molecular Simulations</td>
</tr>
<tr>
<td>CHEM 1907</td>
<td>Chemistry in the Kitchen</td>
</tr>
<tr>
<td>CHEM 1911W</td>
<td>Quantum Mechanics and Popular Philosophy</td>
</tr>
<tr>
<td>CSCI 1905</td>
<td>Survey of Applied Computer Science Using Computer Games</td>
</tr>
<tr>
<td>GEOG 1913</td>
<td>Living with Innovation</td>
</tr>
<tr>
<td>HSCI 1955</td>
<td>Einstein’s Universe</td>
</tr>
<tr>
<td>PHYS 1902</td>
<td>Nanotechnology</td>
</tr>
<tr>
<td>PHYS 1903</td>
<td>Quantum Mechanics for Everyone</td>
</tr>
<tr>
<td>PHYS 1905</td>
<td>Aurora: From Myths to Modern Science</td>
</tr>
<tr>
<td>PHYS 1906</td>
<td>What is Space Weather (and Why Should You Care)?</td>
</tr>
<tr>
<td>PHYS 1907</td>
<td>The Physics of Warfare</td>
</tr>
<tr>
<td>PHYS 1910W</td>
<td>What is Time?</td>
</tr>
<tr>
<td>PHYS 1911W</td>
<td>How Likely is Extraterrestrial Life?</td>
</tr>
</tbody>
</table>
Humans, like all other species, are an integral part of the ecology of the earth. We display a series of adaptations that allow us to eat, grow, find mates, and raise offspring. How have human adaptations been modified over time; for example, as we spread out of Africa beyond the low latitudes? How do our adaptations change as we change our own environment? For humans, our interactions with the environment include a high dependence on sociality, technology, agriculture, trade, and today, fossil fuels. We will consider changes in human diets, methods of food acquisition, geographic distribution, and social structure from the earliest ape-like humans through the Stone Age on into the present day to explore how long humans have made a significant impact on the environment.

Martha Tappen is a paleoanthropologist with research interests in the reconstruction of early human behavior and environments, especially from the time of the earliest Stone Age. She has worked with hunter gatherers in the Congo on archaeological sites in France, the Congo, Ethiopia, and post-soviet Georgia. Currently, she is a principle investigator at the Homo erectus site of Dmanisi, Georgia, the earliest fossil site found out of Africa.
**Ballooning: Design, Build and Fly**

AEM 1301  
2 Credits  
Fall 2018

James Flaten  
*Aerospace Engineering and Mechanics*

Lighter-than-air vehicles have a long history including, though not starting with, the first flights to carry people (under hot-air balloons) in the late 1700s in France. The use of hydrogen, then later helium, as lifting gas allowed balloons to carry payloads to much higher altitudes, including into the stratosphere. Tethered balloons were used for military applications during the American Civil War, WWI, and WWII. By the 1930s self-propelled rigid airships, such as German Zeppelins, and non-rigid airships, often called blimps, regularly carried passengers and cargo across the Atlantic. In this hands-on course we will hone a variety of useful design/build skills, including microcontroller programming, soldering, CAD, and radio control, then design and build miniature airships and use them on missions in indoor flying spaces. The main flight event, possibly styled as a competition, will be a required day-long class activity on a weekend late in the semester. The class will also include balloon-related experiments and data analysis, plus historical presentations about ballooning.

James Flaten is the associate director of NASA’s Minnesota Space Grant Consortium, a higher education program whose goals include promoting interest in space science and space exploration. Though housed in the Aerospace Engineering and Mechanics (AEM) Department, Dr. Flaten’s academic background is actually in experimental physics and he has also taught many physics, astronomy, and basic engineering classes in the past. He particularly enjoys using high-power rocketry and helium-ballooning as low-cost means of giving students hands-on experience building and flying hardware.

---

**Aircraft: Design, Build, and Fly**

AEM 1303  
2 Credits  
Spring 2019

Chris Regan  
*Aerospace Engineering and Mechanics*

Now ubiquitous, powered aircraft flight is little more than a century old. In this hands-on seminar, we will explore the fundamentals of flight through the design, flight test, and analysis of small, UAV (uninhabited aerial vehicle) aircraft. Initially, we will cover the history and fundamentals of flight through lectures and discussion, answering questions such as, “how do aircraft fly?” and “why do aircraft look so similar?” Then, working in small teams, students will design, build, and flight test an electric remote-control aircraft. Students will analyze the flight tests to see if the aircraft performed as expected, write reports, and present on the results. Additional elements of the seminar may include lectures, discussions, and activities associated with aircraft, including the engineering challenges of past, current, and future aircraft.

Chris Regan is director of the Uninhabited Aerial Vehicle (UAV) lab as part of the Aerospace Engineering and Mechanics department. The UAV lab has developed and operates several small, uninhabited aircraft in support of a range of research activities. Chris previously worked at the NASA Dryden Flight Research Center conducting and leading research in controls and dynamics including aircraft modeling, aircraft flight control, and flight test techniques. Chris worked on many aircraft ranging from small UAVs, including X-48B and X-56A, to military transports and fighter based research aircraft.

---

**Black Reality Television**

AFRO 1911  
3 Credits  
LE: DJS  
Fall 2018

Terrion Williamson  
*African American and African Studies*

Many critics date the summer of 2000, when Survivor and Big Brother quickly became ratings juggernauts, as the beginning of the contemporary reality television boom. Within a few short years, shows like College Hill, America’s Next Top Model, and Making the Band 2 began pushing the genre to centralize the experiences of black cast members and, today, reality shows that feature solely or predominantly black casts are among the most successful of the genre. For some people the proliferation of black reality television has been welcome, while for others it has been a major cause for concern, particularly given the complex history of black representation in US public culture. In this course, we will consider what is at stake in the cultural battles over black reality television, as well as how various intersecting modalities of difference such as race, gender, class, and sexuality affect the conditions under which black reality television programming is produced and consumed.

Terrion Williamson originally hails from the South Side of Peoria, Illinois (shout-out to Richard Pryor), which she affectionately refers to as “the hood.” Her experiences growing up in her beloved working-class black community deeply inform her research and teaching interests in feminism, racialized gender violence, black pop culture, and contemporary African American literature. She is also an unabashed consumer of reality television and hopes one day to join the cast of Big Brother so that she can wreak professorial havoc on the house.
Inequality and the American Dream

AFRO 1917
ANTH 1917
GWSS 1917
HIST 1917
3 Credits
Fall 2018

Increasing and intensifying inequality is perhaps the most pressing socio-economic problem of our time. A significant threat to democracy, the American dream, and national values of diversity and inclusion, wealth inequality today has not only surpassed that of the Great Depression but also grafted onto longstanding, intersectional cleavages of race, gender, indigeneity, class, and sexuality. The richest one percent have captured nearly 60 percent of all income gains from 1977 to 2000, and in 2010, the top 20 percent of households owned almost 90 percent of all privately held wealth in the United States, while the net worth of the bottom 40 percent was negative. Simultaneously, much of the current political polarization, cultures of resentment, and rise in scapegoating and racist anti-immigrant actions have also been attributed to the attendant consequences of rising inequality, anxiety, and insecurity. And yet, many social critics argue that instead of addressing the key causes of inequality and the crisis of the American dream, the powerful in society have seized on these conditions to mobilize an avalanche of discontent among sectors of the downwardly mobile in a way that often obscures the key reasons for their predicament and scapegoats those at the social margins. Given this context, it is imperative to better understand and analyze the histories, cultural assumptions, and hierarchies that have produced contemporary inequality.

How did we get to this point? What are the consequences, and what might we expect in the future?

This set of seminars asks these hard questions and engages in precisely this exploration. These four freshman seminars (AFRO 1917, ANTH 1917, GWSS 1917, HIST 1917) will occasionally meet together, and will bring together scholars across multiple disciplines (African American Studies, Anthropology, Feminist Studies, History, and beyond) who are substantively engaged with scholarship on class, race, indigeneity, gender, and sexuality. We believe that this cross-fertilization is critical because the fault-lines of inequality have precisely cohered to these structural formations and categories of analysis.

Malinda Lindquist
History

Malinda Lindquist is an associate professor of history. She is working on a number of projects: a history of the “achievement gap;” a history of educational segregation, desegregation, and resegregation in the Midwest; and a project on the civil rights and black power movements. Before joining the department she worked at the Joint Center for Political and Economic Studies, a non-profit think tank in Washington, DC., where she analyzed the impacts of economic, educational, and health policies on African Americans. In her spare time, she enjoys fishing, biking, aikido, reading mystery books, and binge watching sci-fi series.

Karen Ho
Anthropology

Karen Ho is a cultural anthropologist who studies cultures of power in the United States. Bringing an anthropological lens to understand the corridors of power, her research examines cultures of influence such as Wall Street, the market, corporate America, elitism, and racism that are key forces in shaping and producing socio-economic inequality. She spent over three years “in the field” in lower Manhattan, New York City, conducting ethnographic research on Wall Street investment banks and their role in generating financial crises.

Lorena Munoz
Gender, Women, and Sexuality Studies

Lorena Munoz is an assistant professor in Gender, Women, and Sexuality Studies and American Studies at the University of Minnesota. Her research is focused on (im)migrant communities in the global south, particularly in the areas of informal economy, food, gender, sexuality, race, and health. She is a world traveler, experienced couch-surfer, knitter(holic), and quite an expert on netflix and chill weekend events.

William Jones
History

William Jones is a history professor who studies the relationships between race and class in the United States. He has written books about African American workers in the Jim Crow South and about the March on Washington in 1963. His articles have appeared in the New York Times, the Washington Post, and The Nation. A native of Buffalo, New York, he grew up in Pennsylvania, went to college in Illinois, taught middle school in Louisiana, completed a Ph.D. in North Carolina, taught college in New Jersey and Wisconsin, and has also lived in Guatemala, New York City, and Peru.
The future health of our world requires a generation of creative, motivated, strategic, and expansive thinkers prepared to collaborate across disciplines and sectors to proactively protect the health of human and animal populations and the environment in which they live. Through exploring the connections between culture and human, animal, and ecosystem health in Panama, this course will expose students considering health profession careers to the variety of health professions involved in the One Health approach. Students will learn about the roles of various health professions, and the challenges and opportunities for the various professions to work together on complex health challenges. During spring break, students will apply their learning to observations and experiences in Panama. Site visits and discussions in Panama City will explore the culture of Panama, the history of the Panama Canal and its impact on local, regional, and global health. Site visits and discussions in Bocas del Toro will explore human, animal, and ecosystem health in tropical rainforest and reef ecosystems including the culture, livelihood, and health of indigenous populations, conservation efforts, and ecotourism.

Karin Hamilton is a boarded public health veterinarian and teaching Assistant Professor at the University of Minnesota. She developed and taught AHS 3002: Global Health in Thailand “Create you own” short term study abroad course for the past three years. She also previously led veterinary students on a three-week program in Thailand exploring veterinary public health and culture in Thailand. Dr. Hamilton has worked in global health in 14 countries and teaches/has taught a variety of courses at the undergraduate, graduate, and professional student levels on global health, interprofessional health, One Health, and/or intercultural development.
Mind and Muscle: Philosophy and the Martial Arts

ALL 1911W
3 Credits
Writing Intensive
Spring 2019

Maki Isaka
Asian Languages and Literatures

Japanese cultural history functions as an unusual suspect for our investigation of Japanese philosophy. In Japan, studies, the term “philosophy” is typically thought to indicate Western-influenced thought in modern times (the late 19th century onward). Even when its pre-modern precursor is mentioned, discussion tends to focus on Shinto, Buddhism, and Confucianism as its matrices. Far beyond such realms, however, practitioners of artistic techniques—such as martial and performing arts—already engaged themselves in conceptualizing philosophical problems: “What is nature?”, “What is our existence?” “What is knowledge and how is it generated and transmitted?” The list goes on, encompassing such topics as “body” and “gender.” This course explores this phenomenon. We will read Miyamoto Musashi’s “The Book of Five Rings,” a famous treatise on swordsmanship written by a 17th-century samurai. Anyone interested in the topic and committed to learn is welcome. Aiming at Inclusive Design, it offers multiple options to enhance learning experiences.

While her home department is Asian Languages and Literatures, Maki Isaka is also affiliated with Gender, Women, and Sexuality Studies and Theatre Arts and Dance. The trio represents the backgrounds of Isaka’s intellectual passion and research fields: Asian studies, gender studies, and theater studies. Another hidden theme common in her publications lies in Isaka’s interest in the concept of “membership.” How it is defined, on what grounds, what the concept does to the members and non-members thus defined. Isaka’s current research project is about female performers of a certain all-male musical genre. Although a big fan of theater, Isaka can’t do theatrical acting.

Fashioning Islam in Literature and Culture

ALL 1912
3 Credits
Fall 2018

Nida Sajid
Asian Languages and Literatures

Over the last few decades, the image of the Muslim veil has been variously idealized and politicized around the globe. This excessive (in)visibility has triggered multiple scholarly and public conversations about the relationship between collective faith and individual choice in Islam. The objective of this course is to investigate and go beyond these debates about veiling and unveiling to uncover complex aesthetic and political acts of self-fashioning undertaken by Muslim writers, filmmakers, and artists as they engage with and re-define processes of Islamic piety and global modernity. Through innovative readings of film, literature, and popular culture from a range of geographical sites and historical periods, this course highlights the importance of clothing and adornment in the formation of gendered identities, religious beliefs, and nationalist politics. From the Turkish Fez to the Indian Sari, we will explore how dress practices stitch together structures of power, displays of masculinity, and questions of women’s agency in different times and places. These explorations will be guided by an interest in identifying unconventional cultural sites for the staging and un-staging of “Muslim dress” and assessing the importance of fashion in stimulating gendered consumption and aesthetics.

Nida Sajid holds a Ph.D. in comparative literature and her research focuses on Muslim cultures of South Asia, gender studies, and postcolonial literatures. She has contributed to journals, encyclopedias, and anthologies on topics related to gender and sexuality, global intellectual history, and Hindi/Urdu literature. In addition, she has also generated enthusiasm for Islamic fashion and dress practices with academic symposiums and public exhibitions showcasing the diversity and individuality of Muslim cultures around the world.
Asian Americans and Food

AMST 1911
3 Credits
Fall 2018

Martin Manalansan
American Studies

Asian Americans have always been intimately connected to food practices and institutions in the American imagination. Food is the medium through which Asian American cultural difference, their status as “perpetual foreigners,” and the “model minority character” are typically expressed and disseminated. Historically, Asian migration to the United States was fueled by labor needs, particularly in the agricultural sector. In addition, Asian labor has been stereotypically linked to food service and preparation such as the ubiquitous Chinese take-out place and more recently, the sushi and Korean fusion joints. This course is an introduction to the interdisciplinary study of food as a way to understand the historical, social, and cultural aspects of Asian American food preparation, distribution, and consumption. Students will investigate the politics and poetics of Asian American food ways by examining social habits and rituals around food in homes, restaurants, and other public venues. Texts include ethnographic essays, fictional works, memoirs, magazines, visual arts, and television shows.

Martin Manalansan is an anthropologist and interdisciplinary scholar whose research interests include migration, sexuality, gender, and food (not necessarily in that order). He is currently writing on two separate book projects: undocumented queer immigrants, and Filipino and Filipino American culinary culture.

Changing Human Adaptations

ANTH 1911W
3 Credits
LE: ENV
Writing Intensive
Spring 2019

Martha Tappen
Anthropology

Humans, like all other species, are an integral part of the ecology of the earth. We display a series of adaptations that allow us to eat, grow, find mates, and raise offspring. How have human adaptations been modified over time: for example, as we spread out of Africa beyond the low latitudes? How do our adaptations change as we change our own environment? For humans, our interactions with the environment include a high dependence on sociality, technology, agriculture, trade, and today, fossil fuels. We will consider changes in human diets, methods of food acquisition, geographic distribution, and social structure from the earliest ape-like humans through the Stone Age on into the present day to explore how long humans have made a significant impact on the environment.

Martha Tappen is a paleoanthropologist with research interests in the reconstruction of early human behavior and environments, especially from the time of the earliest Stone Age. She has worked with hunter gatherers in the Congo, and on archaeological sites in France, the Congo, Ethiopia, and post-soviet Georgia. Currently, she is a principal investigator at the Homo erectus site of Dmanisi, Georgia, the earliest fossil site found out of Africa.

From “O Brother Where Art Thou?” to “12 Years of Slave”: American Cinema and American Roots Music

ANTH 1914W
3 Credits
LE: DSJ
Writing Intensive
Fall 2018

Gloria Goodwin Raheja
Anthropology

This seminar focuses on the ways in which popular culture (movies and other visual media) presents and comments upon southern American “roots” music. Although the music had deep roots in the American past, it also underwent dramatic transformations with the coming of industrial capitalism to the South and as a result of the commercial recording process itself, especially in the 1920s. This music continues to shape popular music today, and it continues to be a focus of cinematic attention. In this seminar we will focus on three sets of issues. First, we will consider the music in terms of its resonance in contemporary American music. She teaches courses on anthropological theory, South Asian experience of inequality in the United States.

Gloria Goodwin Raheja is an anthropologist with research and teaching interests in South Asia and in the roots music of the American south. She has done research in rural north India and has written on a variety of topics in the anthropology of India. A current project focuses on music, race, and industrial capitalism in 1920s Appalachia, and another is centered on the Appalachian ballad tradition and its resonance in contemporary American music. She teaches courses on anthropological theory, South Asian society, the politics of culture, and the social and cultural contexts of the production and reception of American vernacular music.
What is an image? Is it what you see, or what your mind makes of it? Can an image be felt? Or heard? How is it that images produce emotions in their viewers such as fear, pity, or pleasure? If “seeing is believing” and “the camera never lies,” why do some images appear truthful, while others are suspect? How do images make meaning, and how do we learn to read them? Is there a relationship between reading text and reading an image? Does reality exist prior to its representation, or is it constituted through representation? This course will examine these questions comparatively in Western and South Asian aesthetic and philosophical traditions, from Plato’s “Republic” to Bharata’s “Natyasastra.” We will study diverse media, from painting to photography to narrative fiction, and consider how the medium of representation relates to different forms of copying, imitation, and the production of knowledge.

**Truth and Lies: Comparing Theories of the Image**

**ARTH 1912**
3 Credits
LE: GP
Fall 2018

Anna Seastrand
Art History

This course will equip students not only to theorize images of the past, but to read and interpret images that we interact with in nearly every moment of our daily lives.

Anna Seastrand’s work broadly addresses the relationships between visual, oral, and written texts in South Asian art, with particular focus on physical and notional landscapes, pilgrimage, and performance. She is also interested in histories of reception and historiography, and is working on an article that considers the history of reception of “erotic” art of early modern South India. Her most recent scholarship has focused on questions of the status of art: What makes a picture a portrait? What makes a work of art “religious art”? And how do we understand the function and meaning of texts and images that were never possible for audiences to read?
BioArt: Culturing Life

ARTS 1911
3 Credits
Fall 2018

Diane Willow
Art

Neil Olszewski
Plant and Microbial Biology

What do GFP Bunny (green fluorescent protein) and transgenic bacteria have to do with art? This interdisciplinary seminar explores BioArt as a contemporary art form that engages scientific and artistic processes to create artwork with biological organisms, living systems, and life processes. It questions the relationships among biological bodies, cultural bodies, technology, and bioethics. BioArt examples include Victimless Leather alive at MOMA, the DIY home kitchen Digestive Table, and the One Tree series of genetically identical trees living in San Francisco. Exploring topics from ecology to molecular biology, we will examine the dynamic process between scientist, artist, and the public, the poetic and political implications, and the ethical issues associated with the making of this art. Direct engagement with microorganisms, reading and discussions that develop critical thinking, as well as laboratory and studio sessions will lead to individual and collaborative works of BioArt.

Diane Willow is a professor in the Department of Art, in the area Interdisciplinary Art + Participatory Culture. “By any medium necessary” best describes her process. With internationally and nationally commissioned public art works and exhibitions she engages media as diverse as bioluminescent plankton, interactive architectural facades, and tangible sound.

Neil Olszewski is a professor in the Department of Plant and Microbial Biology. His research investigates regulation of plant growth and plant viruses. He assisted the artist Eduardo Kac with Natural History of the Enigma, shown at the Weisman Art Museum.

Art and Yoga

ARTS 1912
3 Credits
Fall 2018

Jan Estep
Art

This experiential course offers a dynamic mix of art and yoga with the goal of tapping into your creativity, cultivating a strong sense of embodiment and intuitive intelligence, and developing self-awareness. Each class opens with kundalini yoga and meditation, which leads into guided creative exercises with various art materials, and ends with structured time to share. Calming the mind/body and centering into self-presence at the beginning of class lets us shift from the outer turmoil and stresses of ordinary life, awakening the natural calm and ease within. It is from this place that we explore creative expression - through drawing, painting, writing, and movement - connecting with ourselves in a deeper, freer way. Together we create a supportive community that encourages each of us to learn, explore, and grow. This class is for all levels: although welcome, no previous art or yoga experience is necessary. Most important is an open mind and a willingness to experiment with creative and somatic practices. A materials list will be sent out to students prior to first day of class.

Jan Estep is an artist, writer, educator, spiritual seeker, philosopher, and yogi. She approaches life with curiosity and a deep desire to connect. Her daily creative practice combines visual arts, writing, meditation, and yoga, and her recent art projects explore the relationship between art, spirituality, and the potential of creativity to help people grow and heal. In addition to her degrees in studio art (MFA) and philosophy (PhD), she is trained in Mindfulness-Based Stress Reduction (MBSR) from UMass Medical School Center for Mindfulness, Kundalini Art As Taught By Yogi Bhajan, Art and Yoga with Hari Kirin Kaur Khalsa, and Prana Vinyasa Flow with Shiva Rea.

The Ultimate Questions

AST 1910
2 Credits
Fall 2018

Lawrence Rudnick
Astrophysics

Why are we here? Not here at the U, or even on Earth, but why do intelligent beings even exist in the universe? How did it all begin? And how is it going to end? Did the universe have to turn out the way it did, or are we simply the lucky one of an infinite number of universes existing across space and time? Of course, we won’t answer any of these questions, but their exploration makes for a fascinating journey. Our guidebooks will be two intriguing works by Paul Davies, “The Goldilocks Enigma” and “The Mind of God,” anchoring our discussions which are guaranteed to keep you up at night.

Lawrence Rudnick is a distinguished teaching professor of astronomy, who still can’t believe he gets paid for thinking deep thoughts about the universe. He enjoys teaching and learning with students from freshmen through Ph.D. candidates. His research involves the observation of high energy objects, such as exploded stars and enormous structures with the mass of a quadrillion suns. He uses telescopes around the world and in space, and is also involved in a variety of public outreach activities.
Nothing
AST 1911
1 Credit
Fall 2018
Lawrence Rudnick
Astrophysics

Is “nothing” too wonderful to be true, as the great eighteenth century physicist Michael Faraday pondered? Following the Bard, in this seminar we will make much ado about “nothing.” From the birth of the Universe ex-nihilo, to the philosophies that find meaning in nothing, to the tangled history of zero over the centuries, to our beginnings as seen by theologies when even nothing was not. In our journey through the teeming vacuum, “nothing” is sacred, and will be both ventured and gained. Caution is advised, however, in telling people that you’ve signed up for “nothing!”

Lawrence Rudnick is a distinguished teaching professor of astronomy, who still can’t believe he gets paid for thinking deep thoughts about the Universe. He enjoys teaching and learning with students from freshmen through Ph.D. candidates. His research involves the observation of high energy objects, such as exploded stars and enormous structures with the mass of a quadrillion suns. He uses telescopes around the world and in space, and is also involved in a variety of public outreach activities.

Tradition and Innovation in Iceland
BIOL 1906
3 Credits
LE: GP
Spring 2019
John Ward
Plant and Microbial Biology

This course will examine Icelandic innovation. It will consider how the society was able to survive multiple famines, plagues, volcanic eruptions, pirate raids, and wars to become one of the most innovative countries in the world. We will also examine how the education system and government policy contribute to innovation and the benefits of innovation in business.

John Ward is a professor in Plant and Microbial Biology and the associate dean for undergraduate education in the College of Biological Sciences. He teaches Botany and Plant Physiology and has previously taught a study abroad course. He is interested in sharing Iceland’s history with students and the unique role that Iceland is playing in tourism, human genealogy/genetics, and renewable energy.

Curing Cancer
BIO 1911
1 Credit
Fall 2018
Colin Campbell
Pharmacology

The objective of this seminar is to develop a basic understanding of the molecular origins of cancer, how it is currently treated, and the exciting efforts to develop new, more effective anti-cancer drugs. We will read and discuss two recent books, The Emperor of all Maladies by Siddhartha Mukherjee and The Immortal Life of Henrietta Lacks. Each class session will involve interactive discussions and a lively exchange of thoughts and ideas.

Colin Campbell is an associate professor of pharmacology. His doctoral and post-doctoral training occurred at Boston University, the University of Illinois at Chicago, and the Albert Einstein College of Medicine in the Bronx, New York. In addition to directing the graduate program in pharmacology, he directs a cancer biology research group and teaches undergraduate, graduate, and professional students.

Photographing the University Community
BIOL 1912
2 Credits
Fall 2018
Alex Lange
Biochemistry
Robert Roon
Biochemistry

This seminar will provide students and faculty an opportunity to explore the art of photojournalism and/or documentary photography. Students and faculty will take photographs on the University campus or the surrounding neighborhoods and then each person will assemble their photographs into a coherent essay. The seminar will include social themes, and will have a strong writing component, as well as the obvious focus on photography.

Alex Lange received his Ph.D. in nutritional biology from Cornell University. His research interests include diabetes, metabolite sensing and signaling, and metabolic enzyme regulation.

Robert Roon is a veteran of more than 45 years of university teaching. His eclectic interests range from neuroscience and nutrition to the origins of human life and Northwest Coast Native American art. He also sings in a men’s choral group and co-parents his grandson. He has been taking photographs for 50 years and in the past few years, he has averaged 20,000 photographs per year.
Understanding the Evolution-Creationism Controversy

BIOL 1913
1 Credit
Fall 2018

Randy Moore
Biology Teaching and Learning

This seminar has two goals: 1) to help you succeed at the University of Minnesota, and 2) to help you develop your own understanding and appreciation of the evolutioncreationism controversy. We’ll discuss the many aspects of the evolution-creationism controversy, including its history, legacy, relevance, and key people. We will also discuss a variety of issues related to the controversy, including those involving court decisions, public opinion, racism, politics, etc. Many people are emotional and opinionated about the evolution-creationism controversy. Although this seminar is not focused on opinions, we will talk about why so many people feel strongly about this issue, and why the controversy persists. You will be interested in—and probably surprised by—what you learn. Each week we will also talk about concerns and/or questions you have about life at the University. Although I can’t fix your parking tickets, I can offer advice about what you’ll need to do to succeed here.

Randy Moore has written many papers and books about the evolution-creationism controversy, and likes to use a variety of teaching styles and other approaches to learning, such as field trips.

Genomics in Your Current and Future Life

BIOL 1915
1 Credit
Fall 2018 and Spring 2019

Perry Hackett
Genetics, Cell Biology, and Development

In this seminar, DNA and genomes will be discussed in many contexts, including medical science (diagnosing a disease and finding miracle cures), crime scene investigation, ethics, the modification of life at every level on the planet, etc. Students will discuss their thoughts on a variety of controversial issues both online and in class. In addition to learning about how our understanding of DNA and genomes has infiltrated every aspect of society, students will develop their process of thinking about complex problems by writing short opinions and evaluating those of others in class. “Clickers” are used intensively in the course to determine how participants feel about certain positions on controversial subjects and to stimulate discussion of different points of view. All reading material will be furnished online, but students must buy their own clicker from the bookstore or elsewhere.

Perry Hackett is a professor of genetics, cell biology, and development. His career has focused on retooling genomes from bacteria to humans. He is especially interested in conveying to students the awesome possibilities of modern genetics and the importance of using data to find answers to the important questions that science raises.

Visualizing Results

BIOL 1916
2 Credits
Fall 2018

Yaniv Brandvain
Plant and Microbial Biology

Much of research is focused on generating and analyzing data. But effectively displaying this data is key to communicating one’s results. Effective visualizations can help communicate major results and can be quite convincing. Poor visualizations can confuse and even mislead the audience. This course will consider best practices in the visual presentation of scientific and empowers students to evaluate the presentation of data and to generate effective figures using modern computational software.

Yaniv Brandvain is a faculty member in the Department of Plant and Microbial Biology. He studies how we can learn about population history, speciation, and the action of natural selection from patterns of genomic variation.

Experimental Evolution

BIOL 1917
1 Credit
Fall 2018

Mike Travisano
Ecology, Evolution, and Behavior

Life originated over four billion years ago. Since that time, evolution has shaped living systems, generating tremendous biological diversity. Experimental evolution is a dynamic approach to investigating life, examining how and why biological systems change over evolutionary time. We will focus on how experimental evolution is done, what we have already learned, and the bright future for new research. Topics will include adaptive radiation, infectious diseases, the genetic basis of phenotypes, speciation, and the evolution of multicellularity. Readings will be primary literature and review articles, to be discussed every meeting. Toward the end of the semester, students will propose their own experimental evolution study based upon the readings, class discussions, and meetings with faculty.

Mike Travisano studies the origin of biological complexity using experimental evolution with microbes. Their current research is funded by NASA for understanding the origins of life.
The Nexus Between Art and Biology
BIOL 1921
2 Credits
Fall 2018
Robert Roon
Biochemistry

This seminar will explore the many and diverse interactions between art and biology. The topics covered range from the portrayal of biology in classic art, to the use of artistic venues for studying and remediating environmental problems, to the utility of photography, painting, sculpture, and other art forms to explore levels of biology ranging from molecular and cellular structures to landscapes. The course includes hands-on creation of artistic biological objects. Topics will be explored using recorded media and presentations by students, the instructor, and invited speakers to cover novel topics at the art/biology interface.

Robert Roon is a veteran of more than 45 years of university teaching in the area of biochemistry. His eclectic interests range from neuroscience to Northwest Coast Native American Art. One guiding principal of his life has been the firm conviction that “man shall not live by bread alone.” That phrase from Matthew 4:4 has a non-literal meaning that transcends any specific religion. It suggests that in order to live a healthy and productive life, it is essential to have some creative outlet that connects us to our biological heritage. This runs contrary to the current tendency to interact with others and with the larger world via electronic venues.

Native Plants and Native Foods
BIOL 1919
1 Credit
Fall 2018 and Spring 2019
Lisa Philander
Plant and Microbial Biology

This seminar will encourage students to explore plants native to your culture. Are these plants well-known and readily available or are they heritage plants, parts of an endangered tradition? As we examine plant/food use from biological, historical, and cultural perspectives, you will research a plant, analyze multidisciplinary research, and construct a video. Students can also look forward to guest speakers and field trips that will introduce you to broader University plant resources.

Lisa Philander is the curator of the Biological Sciences Conservatory. Her research in plant medicines examines systems of traditional healing as they adapt to urban areas. She is a proponent of student-directed learning; once students identify topics that interest them, she helps them to examine these topics more thoughtfully using interdisciplinary methods.

Biology at the Movies
BIOL 1920
2 Credits
Spring 2019
Brian Gibbens
Biology Teaching and Learning

This freshman seminar is all about biological media (pun intended). Students will examine how biology topics and biologists are portrayed in science fiction and horror movies and TV shows. Students will present examples of their favorite biology-related shows and movies and then the class will work together to determine which ideas are sci-fi and which are sci-fact. You'll learn things that are strange but true and things that seem true but aren't. Near the end of the course, we'll use our new-found knowledge to make predictions about the future of biology research. This freshman seminar will have a clear focus on biology; you don't need to be a biology major, but you can expect to be finding and reading primary biological research papers. Note: some of the movies we'll be watching will be rated R.

Brian Gibbens is an assistant professor in the Biology Teaching and Learning Department. He currently teaches the BIOL 1951 and BIOL 2003 Foundations of Biology courses. His scientific interests include career-relevance, student motivation, critical and creative thinking, curricular systems, digital biology, metagenomics, scientific teaching, classroom-based authentic research experiences, team-based collaborative learning, and active learning classrooms.

Evolutionary Perspectives on Agriculture and Human Health
BIOL 1918
1 Credit
Fall 2018
Ford Denison
Ecology, Evolution, and Behavior

Crops, humans, pests, and pathogens have evolved and continue to evolve, largely by natural selection (non-random differences in reproduction and survival among random genetic variants). Weeds and insect pests readily evolve resistance to our control methods, from crop rotation to chemical pesticides. Human pathogens evolve resistance to antibiotics. Can we slow such harmful evolution? Also, can the evolutionary history of crops help guide plant breeding? Can our own evolutionary history suggest ways to improve health-care in humans? In this seminar, students will read a scientific paper every two weeks and discuss it in weekly sessions. Writing assignments will be frequent but short, such as “choose one of the figures in the paper and explain it in your own words” or “pick one of the assumptions this paper makes, and outline an experiment that would test the assumption (i.e., potentially prove it wrong, if it is wrong).”

Ford Denison is an agricultural ecologist with a long-standing interest in evolution. He is the author of a book titled “Darwinian Agriculture” and a journal article titled “Past evolutionary tradeoffs represent opportunities for crop genetic improvement and increased human lifespan.” Work in his lab is focused on the symbiotic interaction between legumes and the root-nodule bacteria that fix nitrogen.
You Contain Multitudes: Living in the Age of the Microbiome

BIOL 1922
1 Credit
Fall 2018

Daniel Bond
Plant and Microbial Biology

Rebecca Calvo
Plant and Microbial Biology

The recent discovery that each of us is home to a unique collection of microbes raises many questions about how this “microbiome” affects our health, nutrition, and even mood. Scientific research on the microbiome, fueled by improvements in DNA sequencing technology, has moved beyond classifying who has what microbes and is now beginning to answer questions about how microbes and multi-cellular life co-evolve and co-exist. In this course, we will explore how microbes co-exist. In this course, we will primarily read and discuss “I Contain Multitudes” by Ed Yong and complete short writing assignments that explore differences between styles of science writing. No prior knowledge of (micro)biology is assumed or required—only a desire to change the world through science communication.

Daniel Bond is a professor and Rebecca Calvo is a postdoctoral associate, both are microbiologists, and they have four decades of combined experience studying bacteria in soil, water, test tubes, sheep, oceans, and abandoned iron mines. Both also cultivate microorganisms outside the lab: in beer, kombucha, yogurt, sauerkraut, kimchi, sourdough, and other tasty fermentations. They eat these while watching old Cosmos re-runs and reading science twitter feeds. During the day, the Bond Lab in the University of Minnesota BioTechnology Institute studies bacteria that make electricity and breathe metal-rich rocks using a combination of genetic tools, power tools, and software tools.

Fake! The Value of Authenticity

BIOL 1923
1 Credit
Fall 2018

Anke Reinders
Plant and Microbial Biology

Fake art, fake diamonds, fake friends, fake news? What is fake and how do we know what is real? Are things that are fake automatically worthless (or worth less)? In this freshman seminar we will explore what fake means in different contexts, from nature to art to society. Through readings, discussions, guest speakers, and activities we will discover aspects of “fake” from flowers that pretend to be insects to imitation food, from counterfeit designer clothes to forged money or paintings. What motivates people to create fake objects? And why do we feel cheated when we learn that something is not what it pretends to be?

Anke Reinders is a senior research associate in the Department of Plant and Microbial Biology. She studies plant membrane transporters that are important for many fundamental processes in plants. She has taught Molecular Biology and Society and is a member of the Faculty Senate. She has lived in Germany, Switzerland, and the U.S. and has always enjoyed exploring the locations she has found herself in.

Science and Politics of Genetics and Reproduction

BIOL 1942
3 Credits
LE: TS
Spring 2019

Murray Jensen
Biotechnology Teaching and Learning

In this seminar, students will read, discuss, debate, and generally engage with a myriad of issues surrounding the science of genetics and the application of revolutionary technologies to human reproduction. Students will explore topics and controversies related to the past, present, and future of human sexual activity and human reproduction, and how reproductive technologies (such as in vitro fertilization) have helped shape our modern society. Through the use of both fiction and non-fiction literature, students will learn the details of current scientific breakthroughs such as “designer babies.” This seminar aims to engage students in an exploration of their personal beliefs about the roles of science, the government, and also religious institutions on human reproductive rights.

Murray Jensen is a Horace T. Morse Distinguished Teaching Professor in the Department of Biotechnology Teaching and Learning. His teaching areas include entry-level biology, human anatomy and physiology, and graduate level courses in STEM teaching and learning. His research areas focus on developing teaching strategies within active learning environments, and in 2007 he earned the Society for College Science Teachers Outstanding Undergraduate Science Teacher Award.

Ways of Knowing and Science

CFAN 1902
3 Credits
LE: DSJ
Fall 2018

Craig Hassel
Food Science and Nutrition

Karl Lorenz
CFANS Office for Diversity and Inclusion

In this seminar, students will experience diverse ways of knowing through field trips, class discussion, and assignments. Experience is often the best teacher. Through direct experience and involvement with another culture, you will encounter different worldview orientations and ways of seeing and making meaning in the world. The seminar will focus specifically on different cultural orientations to understanding food, health, and wellness relationships.

Craig Hassel explores issues of food and health with cultural communities whose narratives tell of diminishment and/or marginalization of their knowledge as often represented through academic teaching and research. Trained as a nutrition biochemist, for the first 36 years of his life he was virtually oblivious to the influence of culture in governing scientific thought and attention.

Karl Lorenz leads the work of the Diversity Catalyst Team and is responsible for implementing college-wide diversity initiatives. Working with students gives him considerable satisfaction, and he believes students are served best in a diverse environment where multiculturalism is embraced, incorporated, and valued throughout the institution, and where unique cultural learning needs are supported.
Native American Ways of Knowing the Environment

CFAN 1911
3 Credits
LE: DSJ
Spring 2019

Mark Bellcourt
CFANS Student Services

American Indian peoples have occupied “Turtle Island” or North America for more than 20 thousand years. Today, more than 400 American Indian nations have been recognized by the federal government using more than 250 distinct languages. This seminar will focus on American Indian ways of knowing the environment through discussion, guest speakers, site visits near the U of M campus, lectures, and community service learning experiences.

Mark Bellcourt’s areas of research are indigenous environmental knowledge systems and multicultural leadership. He is an enrolled member of the Minnesota Chippewa Tribe, Mississippi Band of Ojibwe from White Earth. In addition to this seminar, he also co-facilitates the Dean’s Engaged Leadership Program, Exploring Ecuador (global seminar), and teaches a President’s Emerging Scholars Seminar. He has a joint appointment in CFANS and CEHD.

My Other Car is a Bicycle

CHEM 1904
3 Credits
Fall 2018

Lee Penn
Chemistry

Bicycling is a viable and sustainable mode of transportation and a vehicle for health and wellness of both individuals and communities. In this seminar, students will examine the impact of choosing cars for transportation, research city planning for non-car-based transportation, evaluate safety and risks of using bicycles on different types of infrastructure, and compare bike movements and cultures in cities worldwide, including the Twin Cities. This seminar will challenge students to evaluate how they use transportation infrastructure, consider social justice issues related to transportation infrastructure, and the role that choosing bicycles and other non-car based transportation can play in improving connectedness between and within communities. We will learn some basic bike repair and practice urban riding skills. Classes will include field trips (by bike, of course), guest lectures, and more. Each student must have access to a bike during class time.

Lee Penn is a chemistry professor who uses bikes for transportation, recreation, and competition. Since 2001, Professor Penn has been commuting by bicycle to and from campus all year round. Professor Penn supervises a research group of eight graduate students and several undergraduates, all working on topics related to sustainable energy and/or the environment. Finally, Professor Penn is also the Director of Undergraduate Studies for the Chemistry Department and a member of the University of Minnesota’s Academy of Distinguished Teachers.

Probing Chemical Systems with Molecular Simulations

CHEM 1906
3 Credits
Fall 2018

Ilja Siepmann
Chemistry

Ilja Siepmann’s research focuses on understanding how molecular architecture and composition influence structure, phase behavior, and thermophysical properties of complex chemical systems. He has a joint appointment in CFANS and CEHD. His work includes using advanced computer simulation techniques to explore the properties of chemical systems. The first computers in the 1950s allowed for molecular simulation to emerge as a new scientific approach to investigate the properties of chemical systems. The triangle of experiment, theory, and molecular simulation, each with its own advantages and disadvantages, has led to tremendous gains in understanding and predicting the chemical world. This freshman seminar will provide you with background on various molecular simulation techniques and enable you to write your own computer codes for various applications. Topics will include a Monte Carlo calculation to estimate a mathematical constant, a lattice-based algorithm to generate fractal aggregates, molecular dynamics simulation to discover the ideal-gas law and to probe liquids and glasses, and a Monte Carlo simulation to investigate liquid water.

Janie Salmon has been teaching at the University of Minnesota since 2012. She earned her B.S. at Kansas State University and her Ph.D. at the University of Arizona. She regularly teaches Chemical Principles I and II (CHEM 1061/1062), Organic Chemistry I (CHEM 2301) and Advanced Inorganic Laboratory (CHEM 4711W).

Chemistry in the Kitchen

CHEM 1907
2 Credits
Fall 2018

Janie Salmon
Chemistry

Cooking is a widely-known (and widely-appreciated) application of chemistry. In this course, we will discuss the chemical principles behind topics such as nutritional value of food, the role of gluten in baking, caramelization/roasting, and molecular gastronomy. Relevant concepts from biochemistry, neuroscience, and materials science will also be addressed.

Janie Salmon has been teaching at the University of Minnesota since 2012. She earned her B.S. at Kansas State University and her Ph.D. at the University of Arizona. She regularly teaches Chemical Principles I and II (CHEM 1061/1062), Organic Chemistry I (CHEM 2301) and Advanced Inorganic Laboratory (CHEM 4711W).
One may argue about its causal role in these matters, but there is no doubt that the language of quantum mechanics has provided a powerful new set of metaphors with which to express our understanding of ourselves and our place in the overall scheme of things. We will begin with an introduction to some of the basic ideas of quantum mechanics, including the uncertainty principle and wave/particle duality, and discuss some of the quantum paradoxes that highlight the counter-intuitive nature of these concepts. We will then go on to discuss the reflection of these ideas in popular books, articles, and web sites concerning religion, mythology, and philosophy.

Doreen Leopold and her research group use anion photoelectron spectroscopy to study the structures and reactivities of transition metal clusters and organometallic radicals in the gas phase. She has been a member of the Chemistry Department faculty since 1986, and frequently also teaches “Chemical Principles II” (Chem 1062) and “Introduction to Quantum Mechanics and Spectroscopy” (Chem 4502).

This course will critically engage with the representation of Latinos and Latinas in the media and with how Latinas and Latinos represent themselves when they are granted creative freedom in mainstream, independent, and social media. Students will begin by learning how Latina/o/x identity has been curated, debated, and performed in popular and in independent media, in official counts and politics, in social movements and in academia. By engaging with scholarship on media representation in Latina/o Studies, students will learn to identify the major representative tropes of Latinos in television, film, and in print and news media. Students will learn to read and analyze visual representation and performance art as text in order to differentiate between signifiers of tropes and iterations of self-representation in media and art produced by both Latinxs and non-Latinxs. Students will engage with performance theory and feminist theory to learn to read and critique how race, ethnicity, gender, sexuality, and narratives of intersectionality are curated and presented in mainstream and independent media. The course will query: What are the most popular narratives about Latinos represented in mainstream media?

How are stereotypes about Latinos perpetuated by the media? How do Communication Studies and Latina/o Studies scholars critique one-dimensional representations of Latinos in the media and in popular culture? How do Latinos represent themselves as multi-dimensional when they create their own art or media? How is Latina/o intersectionality represented in the media and in Latina/o/x-created art-forms? The course will incorporate performances and workshops led by locally and nationally-renown Latina/o artists.

Gabriela Spears-Rico received her Ph.D. in Comparative Ethnic Studies from the University of California at Berkeley. An assistant professor of Chicano and Latino studies, Spears-Rico’s research explores how representations of indigeneity in Mexican popular culture inform understandings of race and ethnicity among people of Mexican and Latino heritage. She is a poet whose creative praxis remembers a working class upbringing in migrant labor camps and the narratives of intimacy, violence, and resilience that emerged from those spaces.

Social Media and the Changing Nature of Interaction

This seminar is designed to educate learners about the current impact of social media, particularly those most often used today, and those which could potentially arise with future developments and innovations. A humanitarian perspective will provide the lens by which we will examine universal utility and explore strategies and measures we can take as individuals and community members to leverage their potential for forming connections and interacting as global citizens.

Angelica Pazurek has gained national and international recognition as a well-respected scholar on the sociocultural implications of emerging technologies and their impacts in educational, personal, and professional contexts. She teaches courses in the Department of Curriculum and Instruction on the philosophy of technology, social media, and digital literacy. Dr. Pazurek is also a researcher at the Learning Technologies Media Lab. Creating course shell/umbrella in anticipation of upcoming freshmen seminars in this area.
Science, Technology, and Society

Bhaskar Upadhyay
Curriculum and Instruction

Why and how do science and engineering and technologies generate inequities, control over resources, and impact on economy and culture? Is any development that’s good for business also good for science? How do national politics influence what kind of science gets done and what technology gets developed? How do humans experience the value of science and technology or not? This course focuses on these and similar questions to understand the integral relationships between science, technology, and society. This course will introduce students to foundational concepts, themes, and questions developed within the interdisciplinary field of STS (science, technology, and society). For example, we will attempt to understand the relationships between two areas of science content (genes and genetics and nuclear energy), engineering and technology (CRISPR-Cas9 technology and atomic bomb), and society by exploring the experienced and potential benefits and harm of these developments. The readings allow learners to engage with science content as well as sociological and anthropological understandings of science practices; sociological and political perspectives on technological and scientific (techno-scientific) controversies; cultural, social, and philosophical relationships between technology, science, and humans; and politics of negotiations between scientific experts and the public and public policies.

Bhaskar Upadhyay is an associate professor whose research, scholarship, and teaching focuses on the issues of social justice, race, and equity in STEM (Science, Technology, Engineering, and Mathematics) education.

Issues in 21st Century America: Diverse Christian Perspectives

Timothy Face
Spanish and Portuguese Studies

The media often paints Christianity as a monolithic belief system that is outdated, opposed to science, and intolerant of opposing views. Such a characterization paints Christians in unfairly broad strokes, ignoring their diversity of views. If the media portrayal is inaccurate, how does Christianity really interact with the issues we face in American society today? This is the theme we will explore in this course. We will focus our study on Christian beliefs as grounded in the Bible. We will see that Christians understand their holy book in different ways and come to very different conclusions about its application to societal issues. We will explore different Christian perspectives, noting how conservative and liberal Christians both ground their beliefs in biblical texts, yet hold opposing views. Gender, gay rights, abortion, and immigration are just a few of the topics we will explore as we investigate the interaction of Biblical Christianity with 21st century American issues.

Timothy Face is a professor of Hispanic linguistics who works with the sound system of Spanish and its acquisition by native speakers of English. Beyond his work in linguistics, he also holds a graduate degree in Christian Studies and is dedicated to the study of Christian theology and the diversity of Christian perspectives. He enjoys traveling, both in the United States and abroad, but especially loves Spain and wouldn’t mind having a second home there someday.

Silencing the Gods: The Divine and Human in the Hebrew Bible

Bernard Levinson
Classical and Near Eastern Studies

This seminar attempts to “get behind” the overlay imposed by modern culture upon the Old Testament/Hebrew Bible and to read it on its own terms. In order to do so, we will explore the fascinating literature and religion of the ancient Near East by reading texts from ancient Mesopotamia, Canaan, and Israel, and discussing the ideas found in them and their literary artistry. After investigating the literature of Israel’s neighbors, we will read biblical literature in dialogue with these stories, intellectually analyzing the narratives of the creation of the world, the origin of life, the great flood story, the idea of divine revelation, and the significance of law. Specific topics to be dealt with include God, creation, fate, the point of human life, and the meaning of history.

Imagine climbing up to an unmarked cave in the desert where some of the most famous of the 2000 year old Dead Sea Scrolls were discovered. Bernard Levinson, recently returned from Israel where he led an international team of scholars at a famous research institute, did just that. He has taught at the University of Minnesota for the past eighteen years. One of his students won the most prestigious undergraduate scholarship in the country, the Rhodes Scholarship. Come study with a professor who will challenge you intellectually and help you learn how to become a better student.
Homer’s Odyssey
and Politics

CNES 1913
3 Credits
LE: CIV
Fall 2018

Douglas Olson
Classical and Near Eastern Studies

Homer’s Odyssey is the story of a man who returns from war to find a world much different from the one he left ten years earlier - and one that seems to have no place for him. On his way home, he lies to some, robs and murders others and, arguably through his own negligence, loses all his men. Once back on his native island of Ithaca, he re-establishes his authority as local strong-man through a mass killing of rivals. He is nonetheless emphatically a “hero” and the moral and political center of the story: what Odysseus does is (in the storyteller’s eyes, and those of most readers ever since) right and just. This seminar will use a close reading of the Odyssey, a study of Season One of House of Cards, and considerable discussion of contemporary political and social events to ask what sort of political and social world Homer’s poem imagines; how it formulates and discusses power and justice; and how it encourages its audience to accept judgments about human behavior and “what is right” that may, upon reflection, seem horrifying.

Ever since he was a boy growing up in small-town Illinois, Douglas Olson has been interested in the world’s oldest books and the languages in which they are written. Most of his research as a Distinguished McKnight University Professor involves ancient manuscripts and lost Greek plays and poems. He still believes that Homer’s Odyssey is among the richest and most exciting stories ever told. Don’t worry if you’ve read the book before; it’s going to be different this time.

Religious Arguments

COMM 1913
3 Credits
Spring 2019

John Nordin
Communication Studies

Religious arguments feature in a wide spectrum of global conflicts. In this seminar we will focus on the role that sacred texts play in justifying positions that religious groups take on such issues as the role of women, violence, the presence of evil, sexuality, attitude toward other religions, and the ultimate future of the earth. To examine these questions we must gain familiarity with standard analytical techniques and the assumptions, often unexamined, that both scholars and ordinary people use to amass sacred texts as evidence for their views. While centering on the role of the Bible in the major branches of Christianity, we will also discuss issues in Islam, the Sikhs, and the polytheistic religion of ancient Greece.

John Nordin teaches argumentation, public speaking, and study abroad in Greece. He holds a Ph.D. in Transportation Systems from the Massachusetts Institute of Technology and an M.Div. from the Pacific Lutheran Theological Seminary. Living in Africa brought familiarity with Christianity in post-colonial settings and the Sikh religion. Time in Greece brought contact with Eastern Orthodoxy and ancient Greek religion. He has studied Islam, been a member of an African-American church, and served a parish in rural America. He has published articles on politics in Iran, humor in religious institutions, and has several unpublished novels. He is a published poet. He is also the co-author (with Edward Schiappa) of an argumentation textbook, Keeping Faith with Reason.

Food, Media and Culture

COMM 1914
3 Credits
Fall 2018

Joy Hamilton
Communication Studies

Food is intimately linked to media: meanings attached to what we eat are produced, distributed, and consumed via cookbooks, reality TV, restaurant reviews, social media, film, and advertisements. This seminar attempts to make visible what stories our culture tells itself about food. Therefore, as critical media theorists have argued, food media (and the rituals surrounding it) raise important questions in relation to power, identity, and ethics. Accordingly, food media are situated at the intersecting categories of race, class, gender, nationality, sexuality, and the environment. This course provides an introduction to the food and media nexus by drawing particular attention to the ways in which the political economy of the media, content analysis, ethnography, and audiences can lend unique insight into what we eat. Students will critically analyze food media across a wide-range of platforms and embark on field trips to restaurants and food-related sites in the Minneapolis-St. Paul area.

Since she can remember, Joy Hamilton has been interested in food, place, and media and has made her family and friends participate in countless conversations about restaurants, reality TV cooking shows, and regional cuisines. Having worked as an editor for Colorado and Wyoming tourism authorities, her research now centers on tourism media and identity in the American West. She works as an editor for Teaching Media Quarterly and has conducted NFL fan interviews for the documentary More Than a Word. Joy currently teaches media literacy and has led trips on climate justice and agriculture for the Colorado University-Boulder INVST (International and National Voluntary Service Training) program.

Selfies: Media and the Culture of Me

COMM 1915
3 Credits
Spring 2019

Laurie Ouellette
Communication Studies

In 2013, Oxford Dictionaries announced “selfie” as their word of the year, explaining that usage had increased 17,000 percent in the English language in just twelve months. Defined as “a photograph that one has taken of oneself, typically one taken with a smartphone or webcam and uploaded to a social media website,” the selfie is now a staple of social media platforms from Facebook to Instagram, and taking and posting selfies has become a regular social practice, particularly for young people. How did this happen? This seminar examines the emerging media “culture of me” from a range of critical perspectives. Tracing the cultural history of the selfie from earlier forms of self-portraiture and first-person media to the rise of social media, we will examine the selfie phenomenon within broader cultural trends, from the explosion of ordinary people in the media to developments in interactive media technologies, micro celebrity, integrated marketing, and self-branding.

Laurie Ouellette researches and teaches in the areas of critical media studies and cultural studies. She is interested in the role of ordinary people in media culture, from reality TV to social media. She is a professor in the Department of Communication Studies, and is also affiliated with the Department of Gender, Women, and Sexuality Studies; the Department of American Studies; and the Graduate Minor in Moving Image Studies.
Most people know that computer scientists write computer programs and that those that study the subject learn that they also solve difficult math questions, but few people outside the field understand how computer scientists use these abilities to solve practical problems. In this course students will employ a commercial game development environment to create applications that demonstrate concepts from applied areas of computer science such as artificial intelligence, computer graphics, robotics, and user interfaces. While you will be expected to apply skills that you learned in your high school algebra classes, you won’t have to write a single line of traditional computer code to create programs that are interactive, have high quality graphics, and are fun to use. You will come to understand how computer games work and get produced, but you will also gain an appreciation for how computer science can be employed to make the world a better and more productive place in which to live.

Gary Meyer is an associate professor in the Department of Computer Science and Engineering. During his career he has seen interactive computer graphics evolve from a technology that was only available in the research laboratory to a feature that is commonly available on laptops and smart phones. He teaches undergraduate and graduate courses in computer graphics, computer games, realistic image synthesis, and linear algebra. His research interests include the simulation and perception of color appearance.

Beyond the suburbs lies rural America. Whether you grew up in the country or in the city, you probably have some ideas about rural places. Maybe you think of small rural towns as ideal places to grow up and grow old, quiet places that are safe from crime, without traffic and pollution, or maybe you think of rural places as backward, boring, and bleak. In this class, we’ll explore various myths and realities of life beyond the suburbs. We’ll discover what is unique about rural places. We will examine who lives in rural America and how they make a living. We’ll explore the concept of rural design and learn more about housing issues facing rural communities. We will discuss how “rural” varies across the country. From cowboys to downhill skiers, from tourists to farmers and foresters, life in rural America is wildly varied and fascinating. Join us and discover more about life and livelihoods beyond the suburbs.

Ann Ziebarth is a professor in the College of Design, Housing Studies program. Her academic background includes a B.S. in Housing from the University of Minnesota, a Master of Public Administration from the Harvard Kennedy School of Government, and a Doctoral degree in Sociology/Rural Sociology from Louisiana State University. As a rural sociologist, Dr. Ziebarth’s research focus is on the social, economic, and political changes impacting small towns and rural places using housing as a key indicator of these broad transformations.

Homelessness: Understanding the Issues and Proposal Solutions

Des 1402
2 Credits
Spring 2019

Marilyn Bruin
Design, Housing, and Apparel

Housing directly affects physical, mental, and spiritual well-being, and access to education, employment, human service, and social networks. We will explore issues of homelessness including how it is defined and perceived, causes of homelessness, the long- and short-term effects on individuals and families, and the consequences of homelessness at the community level. We will explore philosophies and programs designed to mitigate those disparities. Public policy at the local and national levels will be examined as it both creates and minimizes experiences of homelessness. Students will be challenged to think critically and ethically about homelessness through reading, writing, discussion, and visits to local homeless shelters. Over the semester, we will discuss and evaluate research-based information and information presented in the media.

The goal is for students to develop skills in locating and evaluating research-based information, and in listening and forming cogent arguments. We will engage in the peer review process, to help them function as a collaborative work group and improve presentation. Furthermore, interactions with families and individuals experiencing homelessness and housing providers combined with reflective writing will encourage students to explore biases about poverty and a sense of responsibility to address poverty as a social issue.

Finally, based on their interests, discussion, and engagement experiences, students will develop a cogent explanation of homelessness and propose a solution. It is my responsibility to provide a safe and supportive learning environment where students can challenge their assumptions and biases, develop empathy for individuals experiencing homelessness, and learn to develop their own proposal for change that is grounded in solid information and experiences.

Marilyn Bruin earned a doctorate in human development and families studies with minors in economics, housing, and political science at Iowa State University. The program of study helped her develop skills to rigorously research how individuals and families make decisions about where they live and how housing influences access to resources and well-being. As a teacher, her goal is to use quantitative, qualitative, and mixed methods to examine household characteristics, networks, and resources to investigate housing and neighborhood effects on individuals and families.
Building Vision
DES 1405W
3 Credits
Writing Intensive
Fall 2018
Monica Fogg
*Design, Housing, and Apparel*

The desire to succeed and do well can sometimes circumvent one’s willingness to embrace challenge in order to safely achieve an outcome (not fail). This freshman seminar aims to break down barriers and fears while developing processes toward new ways of seeing. It builds and expands connections to a larger world of ideas and disciplines. Through weekly exercises in visual story-telling, participants will sharpen their ability to see. Projects are constructed to challenge perceived personal limitations in ideation and process and to build a way of communicating in a visual manner. This seminar is for individuals interested in expanding personal ways of seeing, thinking, and doing, and developing a personal ideation process. It includes lectures, student-led discussions, demonstrations, classroom activities, field trips, and homework. Various media will be used to build a visual journal and skills in articulation. While drawing will be a component, students need not be skilled, just willing. A writing component will help students gain skills in understanding connections between right brain and left brain functions. They will find relationships between self-expression via written word and self-expression through visual work. Many who do visual work, become tongue-tied at explaining the deeper concepts behind their work. This course will build a long lasting confidence by building skills in visual and verbal expression.

Monica Fogg is an artist (watercolor, encaustic, acrylic, woodcut, and lithography), designer, and fabricator. She has taught courses in watercolor, drawing, painting, color theory, design, visual presentation, and art history. She has led previous Freshman Seminars Abroad to Japan and France, and her work is in collections throughout the United States.

Design in London and Edinburgh
DES 1406W
3 Credits
LE: GP
Writing Intensive
Spring 2019
James Boyd Brent
*Design, Housing, and Apparel*

The aim of this course is to present design as an important aspect of our culture, a lens through which one can understand culture and society, and a driving force in moving culture forward, especially in times of change. Students will be encouraged to carefully observe and process the world around them, and to understand that this careful observation is also at the heart of the design process itself as it leads to better understanding of how and why things are made, planned, organized, and positioned in our world, and why these things are important. The two main themes of the course are the role of creativity in helping solve or at least to effectively respond to societal problems that arise in times of change, and how this underlying creative response to change is expressed through design.

James Boyd Brent is an associate professor in Graphic Design (College of Design). He grew up in the United Kingdom and studied printmaking at Ruskin University Cambridge and Central Saint Martins, London. He came to the United States as a Fulbright Scholar in the early 1990s and received his M.F.A. in printmaking from the University of Minnesota. He is a practicing printmaker who has received multiple awards for his work and, in addition to graphic design and surface design, he has taught freshman seminars for more than ten years.

Fashion and Feminism: Dressing for Change
DES 1407
2 Credits
LE: GP
Writing Intensive
Fall 2018
Jean McElvain
*Goldstein Museum of Design*

This class explores the sometimes problematic relationship between fashion and feminism. Literature from First Wave Feminism revealed visceral tensions between fashion and the perceived value of women in society. Fashionable dress was considered constritive, submissive, and indicative of women’s diminished roles in both private and public realms. Second Wave Feminism, which took place approximately between 1963 and 1975, did not often address fashion directly. However, there were dramatic changes in beauty ideals during that time. Second Wave Feminism integrated into mainstream culture, with high profile authors such as Simone de Beauvoir, Frances Beal, Betty Friedan, and Gloria Steinem. This class focuses on formative feminist texts of Second Wave Feminism and explores how they began to shape mainstream fashion in the middle to late twentieth century.

Clothing objects from the Goldstein Museum of Design’s permanent collection will be used to study social mores and norms associated with women’s changing roles in society. Contemporary movements will also be addressed, exploring the complex relationship between femininity and feminism.

Jean McElvain is the associate curator at the Goldstein Museum of Design.
This seminar will explore dance and performance as imagined, practiced, and transformed by people who cross borders in multiple sites of struggle. The course engages the concepts of “mobility” and “political economy of culture” in relation to the idea of “the margins” as applied to and/or claimed by minority groups, activists, and others in the United States, Europe, Middle East, Africa, and Asia. In exploring these intersections, the course will engage migration and displacement/dislocation as sociopolitical, economic, and spatial phenomena, particularly in relation to struggles defined around land and water, labor and livelihood, asylum/refugees, and terrorism/security. We will examine the nature of so-called ethnic (immigrant) practices and diaspora, as well as the binary of rural/urban in the context of the narrative and transmission, internal and external cultural exchange, political resistance, and “multiculturalism.” The course will also address the ways that ideas of global North and global South are claimed, defined, and contested in this process.

Rachmi Diyah Larasati is an associate professor of cultural theory and historiography in Dance. She is also a faculty advisor and affiliate of the Interdisciplinary Center for the Study of Global Change, and an affiliate faculty in the departments of Gender, Women, and Sexuality Studies, and Asian Languages and Literatures. Trained in Indonesian dance, her book, The Dance that Makes You Vanish: Cultural Reconstruction in Post-Genocide Indonesia, theorized global corporeal commodification through genocide. Her book, Dancing in the Forest: Modern Machine and Audio Politics of Land Narrative, asks questions about the aesthetic encounter between indigenous voices and capitalist noise within neoliberal space.

Jennifer Aniston’s character performs salsa in Along Came Polly and hopeful contestants dance it on So You Think You Can Dance, so how can salsa be a political act? This course considers the politics of salsa dancing. We will look closely at race and migration as we read, write, and dance salsa. Class time is evenly devoted to studio and seminar settings because reading about the politics of salsa can inform our dance practice, and dancing salsa can inform how we understand what we read. In the studio students will engage in movement activities that critically examine salsa through dance making and dance technique (such as partnering, rhythm, displacement, turns, awareness of other bodies, and improvisation). We will relate practices of salsa in the studio to the critical discussion of readings and movies in the seminar room. We will develop skills that will help us to closely analyze dancing bodies and the social meanings of salsa practices. Come prepared to read, write, dance, and discuss course topics. No dance experience necessary.

Cindy Garcia is an associate professor, dance theorist, performance ethnographer, and playwright in the Department of Theatre Arts and Dance at the University of Minnesota. Her article “Don’t Leave Me, Celia! Salsera Homosociality and Pan-Latina Corporealties” won the Gertrude Lippincott Award for the best article in Dance Studies in 2008. Her book, Salsa Crossings: Dancing Latinidad in Los Angeles (Duke University Press 2013), addresses the politics of social performances of Mexican-ness, latinidad, and migration in Los Angeles salsa clubs. Her research interests include the cultural politics of migration, racialization, the practice of everyday life, feminist ethnography, Latin/o American Performance Studies, and the gendered performances of latinidad in urban libidinal economies.

Cindy Garcia
Galileo on Trial in Italy

EDHD 1909W
3 Credits
LE:GP
Writing Intensive
Spring 2019

Laura Coffin Koch
Organizational Leadership, Policy, and Development

Galileo risked his career, his freedom, and even his life for science. In this Freshman Seminar Abroad, we will learn about Galileo, the conflicts he faced, and how his discoveries forever changed the world. Over spring break, we will travel to Italy. We’ll visit Pisa, home of Galileo, and climb the Leaning Tower of Pisa. We’ll explore the city of Florence and see one of Galileo’s first telescopes. In Rome, we will visit such places as the Vatican and the Church of Santa Maria sopra Minerva, which provided the backdrop to the end of Galileo’s brilliant career. While on campus, we will learn about 17th century Italy and re-enact the Trial of Galileo through debate and discussion.

Laura Coffin Koch is a Morse Alumni Distinguished Teaching Professor of Mathematics at the University of Minnesota and director of International Initiatives and Relations for the College of Education and Human Development. Professor Koch served as a United States Peace Corps Volunteer in the Philippines for three years where she developed a passion for teaching and traveling, and for each of the past thirteen years, she has taken groups of students to Florence, Italy and Istanbul, Turkey as part of the University Global Seminar and Freshman Seminar Abroad programs.

America in Crisis

ENGL 1912
3 Credits
LE: DSJ
Fall 2018

Ellen Messer-Davidow
English

America has a long history of injustice that lives on today in diverse forms. This course focuses on current crises in our economy, society, and (presumably democratic) government. We will analyze and try to solve some of the pressing questions. How did we end up with the largest wage and wealth disparities in the developed world? Why are low-income and even middle-income families struggling to make ends meet? Why did our K-12 education system, once in first place, drop behind education in all developed nations? Why does our healthcare system cost more yet provide less access and quality than systems elsewhere? In short, what forces created the gulf between the lived experiences of ordinary Americans and the high ideals articulated in the US Constitution?

Ellen Messer-Davidow has always been interested in how power is exercised for good or bad. She studies how government institutions and social movements, corporations and communities, ideologies and discourses operate in and on society. Any particular issue we choose to single out consists of many forces that are always in motion: material resource flows, regulatory policies, and routine processes are constantly disrupted by popular backlashes, legal challenges, and unforeseen accidents. Whether the exercise of power is intended to enable or constrain, it always sets things in motion again.

Poetry and Poetic Form

ENGL 1915
3 Credits
Fall 2018

Brian Goldberg
English

Poetry, William Wordsworth tells us, “is the spontaneous overflow of powerful feelings,” but he goes on to insist that these emotions must be “recollected in tranquility,” that is, they are put into some kind of form by the work of the poet. In this seminar, we will pay close attention to the powerful images, flights of intelligence, and depths of feeling that good poetry often provides, and we will also focus on technical matters such as rhyme and meter, the characteristics of various “fixed forms” (the sonnet, the villanelle, the pantoum) and “open forms” (the elegy, the ode), and on the special features of free verse. As part of their work as readers, students will be encouraged to experiment with writing in certain verse forms.

Brian Goldberg is an associate professor in the Department of English. His research interests include Romanticism, Victorian literature, and eighteenth-century literature. He has taught classes in poetry and poetic form in many colleges and universities across the country.

Wilde Nineties!

ENGL 1916
3 Credits
Fall 2018

Lois Cucullu
English

The Fin de Siècle, the decade from 1890 to 1900, remains one of the most dynamic and transformative of modern times, opening with Oscar Wilde’s celebrity and closing with the scandal of his disgrace, imprisonment, and death. In taking into account the great anxiety over decadence and degeneration, not to mention the “sex question” evident in Wilde’s trials, this course aims at a “slice of life,” horizontally and vertically, over a period that also witnessed technological wonders (cinema, x-rays, airplanes), revolutions in music and fashion, and the publication of such sensational fictions as The Time Machine and Dracula. All of these, along with Wilde’s The Picture of Dorian Gray and Salomé, will occupy our discussions in class, in short reflection papers, and in a more formal interpretive analysis. The aim of the course is to provide a challenging and useful introduction to the enormous cultural shifts of the decade that resonate in the present moment and that make Wilde a continuing figure of great cultural debate and significance.

Lois Cucullu, who grew up at the other end of the Mississippi in New Orleans, specializes in modern British literature. Her research on Oscar Wilde, the catalyst for this course, has led to such publications as “The Adolescent Dorian Gray” and “Wilde and Wilder Solomés: Modernizing the Nubile Princess from Sarah Bernhardt to Norma Desmond.” Other recent courses, notably “Super Sleuths: The Making of Modern Detective Fiction,” and “Spy-Fi: The Rise of British Espionage Fiction,” point to an enthusiasm for detective and spy fiction. Last year she was also awarded a Huntington Library Fellowship for a new project on the writer Christopher Isherwood.
Bugs in Bodies: Forensic Entomology

ENT 1902
1 Credit
Fall 2018

Robin Thomson
Entomology
Correy Hildebrand
Entomology

What can maggots and beetles collected at a crime scene tell investigators about the body? Often, insect evidence collected at the scene of a crime can help experts make a variety of conclusions, such as time of death and whether or not the body has been moved from the original crime scene. In this seminar, students will explore how insect evidence can be used in various ways in the field of forensic science. This class will discuss the scientific approaches and techniques involved in forensic entomological analysis. Topics will include, but are not limited to, the different insects found in decomposing bodies, how insect development time can be affected by factors like the weather or body placement, and how insect evidence can be useful to both crime scene investigators and medical examiners.

Robin Thomson is the Curator of the University of Minnesota Insect Collection. Her research is focused on the biodiversity of a group of small moth-like insects known as microcaddisflies. When not playing with insects and microscopes, she likes to bake cookies and play roller derby.

As a teenager, Correy Hildebrand dreamed of becoming a medical examiner, until she discovered entomology. As a graduate student in the Department of Entomology, she has been able to pursue her interests through her research in forensic entomology. She is excited to share her love for insects and decomposing bodies with incoming freshmen.

Beginners’ Chess and 21st Century Skills

EPSY 1905
3 Credits
Fall 2018

William Bart
Educational Psychology

This course will include an examination of the basic components of chess, computer-based chess, and how chess players think, including visual-spatial thinking and critical thinking, the psychology of critical thinking and other twenty-first century reasoning skills, and research on chess cognition.

William Bart has published research on the psychology of chess. He is a professor of Educational Psychology at the University of Minnesota and received the Distinguished Teaching Award from the College of Education and Human Development. He is also a Fellow of the American Educational Research Association and a Fellow of the Association for Psychological Science.

Geology of Minnesota

ESCI 1902
3 Credits
LE: ENV
Fall 2018

Harvey Thorleifson
Earth Sciences

This course addresses important societal questions, such as “Where does my drinking water come from? Do I really need to buy bottled water? What should my stand be regarding major water-related environmental issues in Minnesota?” In this course, we will explore the world around us, and apply what we learn to better contribute to the solutions we will need as a society to deal with impacts on water quality and quantity due to factors such as agriculture, flood control, groundwater pumping, hydroelectric power, integrity of surface water features, interbasin transfers, invasive biota, mining, and shipping. In doing so, we will explore ways for everyone to better take responsibility for their role in optimizing public health, maximizing economic benefits, maintaining biodiversity, and protecting the integrity of surface water features on our landscape. Emphasis will be placed on how our choices and solutions will in the long term affect our largest source of drinking water—our wells. Those unable to attend a field trip may instead prepare a paper.

Harvey Thorleifson is the State Geologist of Minnesota. In this capacity, he is director of the Minnesota Geological Survey, which was established by Legislative Act on March 1, 1872 to ensure the availability of the regional geological, geophysical, and geochemical information that the people of the State require to ensure wise stewardship of their water, land, and mineral resources, and to thus realize societal benefits related to economic prosperity, public health, natural hazards, as well as appreciation and preservation of our natural heritage. He previously carried out research on gold, diamonds, offshore mapping, climate change, shoreline erosion, and water supply across much of Canada.
Astrobiology: The Science of the Search for Life on Other Planets

ESCI 1904
3 Credits
Fall 2018

Jeff Havig
Earth Sciences

Astrobiology brings together concepts from many different scientific fields, including geology, chemistry, biology, astronomy, and planetary science, to help answer one of the most enduring questions humankind has asked while looking up at the stars: Are we alone in the Universe? Building from a foundation of what we know about life today and what we have learned about past life preserved in the rock record on Earth, we are looking for signs of life on habitable worlds within our solar system (including Mars, Europa, Ganymede, and Enceladus). Further, with an ever-increasing catalog of worlds detected around stars outside of our solar system, we are studying how to look for life on habitable worlds beyond our solar system.

This course will address questions that are fundamental to astrobiology, including: What is life? What are the physical and chemical requisites for life as we know it? Were these requisites present on other worlds in the past, or are they present today? How do we look for signs of past or present life on other worlds? To help address these questions, students will learn the basic principles of astronomy (star formation, planetary accretion), geology (planetary composition, geologic time, plate tectonics, preservation of biosignatures), chemistry (elements and reactions essential to life, chemical signatures life produces), and biology (metabolism, chemotrophy, phototrophy, biological innovation).

Students will complete this course with a deeper understanding of: (1) how our solar system and planet formed; (2) how life developed and evolved; (3) planetary geology and geologic time; (4) the strategies for life in extreme environments; (5) the conditions necessary for a habitable world; (6) past, present, and future missions looking for life on other worlds; and (7) the place of our planet in the universe.

Jeff Havig was raised in the middle of the Cascade Mountains between two stratovolcanoes on the Washington-Oregon border. Through his academic career he has spent many hours pondering the connections between geology, geochemistry, and microbiology while exploring hot springs in Yellowstone National Park, snow algae on glaciers, meromictic lakes, acid mine drainage impacted streams, and lakes racked with harmful cyanobacterial blooms. While his scientific pursuits have taken him through the astrobiology powerhouses of the School of Earth and Space Exploration at Arizona State University and the Department of Geosciences at Penn State, he is happy to make his home at the edge of the Archean craton on which the University now sits.

Caves and Karst: Rocks, Water, and Human Impact

ESCI 1907
3 Credits
LE: ENV
Spring 2019

Josh Feinberg
Earth Sciences

With a focus on caves in Minnesota and throughout the world, this freshman seminar addresses general principles of earth science and climate change on various temporal scales, and the relationship between human activities (e.g., land use) and the environment. Environmental issues surrounding urban and agricultural groundwater water quality and use are a primary focus. We will be using the underlying scientific principles of geology, hydrology, biology, and chemistry of karst and cave systems in order to more clearly grapple with these environmental issues. We will examine the current limitations of our technologies to model groundwater flow in complex cave and karst environments, and discuss the ramifications of these limitations on the development of reasonable zoning regulations, agricultural practices, and groundwater quality criteria. Additionally, this course aims to show that caves have often acted as inhabited places throughout history (even in modern times) and may contain cultural (archaeological) resources worthy of protection. Finally, this course hopes to encourage an appreciation for the roles that caves and karst play in modern society as gas and groundwater reservoirs, the latter of which can be compromised by the migration of contaminated waters. Students will read peer-reviewed research to identify for themselves the environmental issues facing caves and karst and to begin to propose their own potential solutions. Student appreciation for the fragility of cave environments will be grounded in first-hand experiences gained during field trips to local caves.

Josh Feinberg is an associate professor of earth sciences and has been honored to work and learn at the University of Minnesota since 2007. His primary research focus examines the magnetic properties of natural materials and he helps run the Institute for Rock Magnetism, a National Multi-User Facility funded primarily by the National Science Foundation and the University of Minnesota. Josh’s research combines geophysics, material science, and field geology methods to address questions in geoscience, anthropology, soil science, planetary geology, physics, chemistry, and biology that operate on a range of length scales, from atoms to planets.
Digital Earth
GEOG 1911
3 Credits
Fall 2018
Somayeh Dodge
Geography, Environment, and Society

In today’s digital and data-intensive era, geospatial technologies have become an integral part of everyday life. Searching for business locations and driving directions using web and mobile maps, or using location-based services offered with smart phones (e.g., Uber) has become routine. Geospatial technologies enable us to capture, store, process, and display a vast amount of geographic information about the Earth and the environment. The term Digital Earth is a visionary concept that was coined by former United States Vice President Al Gore, for creating a digital, multi-resolution, three-dimensional representation of the Earth, storing and managing access to geospatial data and everything that is known about the planet. This course primarily aims to familiarize students with the basic concepts of geospatial technologies and datasets used to create a Digital Earth. Students will develop skills needed to locate, gather, manipulate, process, visualize, and use geospatial data.

Somayeh Dodge is an assistant professor in the Department of Geography, Environment, and Society. She teaches advanced Geographic Information Sciences (GIS) and geographic visualization courses. Her research mainly involves analysis, modeling, and visualization of dynamic phenomena (e.g., human mobility and animal migration), and exploring their patterns in relation to the environment and geographic contexts.
Living with Innovation

GEOG 1913
3 Credits
Fall 2018

Peter Calow
Center for Science, Technology, and Environmental Policy

This seminar will examine innovations ranging from artificial intelligence (AI) and information technology to nanomaterials and genetically modified organisms (GMOs). The message will be that we need innovation to address big world challenges such as a global population on its way to 10 billion and the pressures that brings to food supply, pollution, and climate change. Yet the innovations themselves can cause problems that include threats to health, environment, and social order. Exploring how science can be used to anticipate and manage these risks will be a core theme. Students will read, discuss, and debate cutting edge material from the scientific literature and popular press. Students can therefore expect to take away from this course an understanding of innovation and risk, of key world problems that include hunger, climate change, pollution, and cyber issues, and to develop skills in critical thinking and communication.

Peter Calow has spent a long career researching the risks of chemicals in the environment in Europe and North America. He has worked at universities and for governments, including the European Union. He has special interests in the interface between science and public policy.

Urban Space and Visual Culture in Berlin

GER 1911W
3 Credits
LE: GP
Writing Intensive
Spring 2019

Leslie Morris
German, Scandinavian, and Dutch

Explore Berlin and its history while studying German visual culture in this freshman seminar abroad. Spend spring break in Berlin, the vibrant cultural, political, and film capital of Germany. Learn about the complex layers of historical and cultural memory in Berlin through exploring a number of important film and visual art projects. While in Berlin, explore the Olympic Stadium, the Film Museum of Berlin, the Monument to the Murdered Jews of Europe, remnants of the Berlin Wall, and public art projects that reflect on histories of trauma. At home and abroad, you will discuss how German visual culture has been intertwined with German history and politics, and how that role has evolved over time.

Leslie Morris is a professor in the Department of German, Scandinavian, and Dutch, and the Director of the Center for Jewish Studies. Her teaching and research centers on German-Jewish memory, history, and culture. She is particularly interested in the ways in which historical trauma is shaped and reshaped in public discourse in Germany, and has written about public art and literary and film texts that remediate the limits of Holocaust representation.

The Spill: A Black Feminist Oracle

GWSS 1912
3 Credits
Fall 2018

Alexis Pauline Gumbs
Gender, Women, and Sexuality Studies

This is an interactive semester long experience in Black feminist theory and praxis grounded in the theoretical interventions and poetic implications of the work of Hortense J. Spillers. Hortense J. Spillers has influenced generations of scholars with her foundational essays, collected in the volume Black, White and In Color: Essays on American Culture. Some of the questions that the class will come back to again and again include: What constitutes freedom? What am I escaping? How am I contained and constrained? Where and when am I overflowing? To whom am I accountable? What nourishes me? What feeds my community? Where do words fail? Does love prevail? What is the purpose and place of critique? What are the contours of collaboration? What is my role in this community? What am I learning and unlearning with and from my family of origin? This course is a Black feminist space of inquiry and is open to all students who are excited about and committed to engaging and prioritizing Black feminist modes of thinking, creating and collaborating.

Alexis Pauline Gumbs, Winton Chair of the Liberal Arts, is a queer black trouble-maker and a black feminist love evangelist. Gumbs is the author of the critically acclaimed and widely taught book Spill: Scenes of Black Feminist Fugitivity (Duke Press, 2016) and the co-editor of Revolutionary Mothering: Love on the Front Lines, a book that is cited from dissertations to activist manifestos. Her short story “Evidence” in Octavia’s Brood: Science Fiction Stories from Social Justice Movements has become a futurist rallying cry for people who believe in the possibility of a better world.

Food Justice: Bicycles, Urban Gardens and the Environment

GWSS 1915
3 Credits
Fall 2018

Lorena Munoz
Gender, Women, and Sexuality Studies

This course critically examines the contemporary food systems through the lens of food justice. We will explore who does and does not benefit from a globalized food system and the effects on our health, communities and our environment. We will also learn about an emerging food movement that challenges the dominant system, including groups for whom justice and equity are central concerns, and who promote the idea that an alternative food system is possible. This course will thus use the concepts of a ?food system? and ?food justice? as its organizing principles. We’ll look at different policies, programs, and the social and economic and cultural forces that influence and shape the food system and that generate food justice activism. We will collaborate with a local community organization Tamales Y Bicicletas located in the East Phillips neighborhood in Minneapolis. The class will consist on several field trips (bike and walking) to learn about food justice programs and community garden initiatives. The class will bring the community to the classroom and the classroom to the community.

Growing up in Mexico, street vending was simply a tapestry of everyday life. When Lorena Munoz moved to Los Angeles for graduate work, she found that the community and public landscape incredibly similar to the one where she grew up in Mexico. This has influenced her interests in street vending, urban community food production and food justice activisms.
Food, Wine, and Sport in the Creation of French Identity

HIST 1914
3 Credits
Fall 2018

Patricia Lorcin
History

This course will examine the specific way in which food, wine, and sport have helped to create the French cultural, social, and economic identity. The course is divided into three sections, each dealing with one of these topics. Throughout the course, we will explore what it is about French attitudes to these three essential elements of national identity that stamp them with “Frenchness.” We will look beyond the national implications to consider the international ramifications of each element. The themes of gender and politics will also be introduced. Texts will include scholarly works of history as well as clips from films, with emphasis on understanding the concepts and methodologies of the scholarly works and discussing and analyzing the other material as sociological and historical sources.

Patricia Lorcin grew up in Turkey and Morocco. She was educated in Turkey, Britain, and the United States, obtaining her Ph.D. in modern European history from Columbia University. She has lived in sub-Saharan Africa, some of that time during periods of conflict when she was able to observe the way upheavals shape people’s lives. Her research focuses on the social history of ideas, especially themes of identity formation, historical memory, and nostalgia— all of which shape who we are and our perception of the space we inhabit.

The Black Death: Plague in History

HIST 1915
3 Credits
Fall 2018

Kathryn Reyerson
History

In 1348, the disease that would be called the Black Death (the second pandemic) swept west from Central Asia to Europe, where it quickly annihilated up to 60% of Europe’s population in the years 1347-1352. This was neither the first nor the last occurrence of this dreaded disease in world history. The Justinianic Plague of the 6th century (the first pandemic) was devastating as well. Plague recurred again and again, with the third pandemic coming at the end of the 19th century. The effects of the plague on the social fabric of the societies with which it came into contact were considerable, but so were the psychic effects, and the religious, intellectual, medical, and artistic worlds felt compelled to attempt to understand what the plague was, as well as its grander philosophical and moral implications. This course will consider the modern scientific advances in understanding the disease and the medieval sources that document its devastation.

Kathryn Reyerson is a medievalist in the History Department with a focus on France and the Mediterranean. She is a Francophile with a particular appreciation for the French language. She has recently published two books on medieval women, demonstrating how they could maneuver in the patriarchal and patrilineal society of the later Middle Ages. She has now turned her attention to Mediterranean world of merchants and pirates. An empirical historian of the society, economy, and law of the medieval era, she has always been interested in the plague and the dramatic effects it had on the era she studies.

Herders and History

HIST 1916
3 Credits
Fall 2018

Zozan Pehlivan
History

This seminar explores herding societies found throughout the premodern and modern world, from the Andes to the Sahara to North America, the Middle East, and Inner Asia. In this course, students will learn the key approaches to thinking about herding peoples and their forms of subsistence as well as the ways in which they interacted with their natural environment and sedentary societies. By focusing on herders’ adaptation strategies to different climatic and environmental conditions, the we will explore how these conditions determined the level of their interaction/relationship with domesticated and non-domesticated animals. We will also examine the cultural identities emerging as a result of interdependency between people and their animals.

Zozan Pehlivan is a historian of the modern Middle East and the Ottoman Empire. Her research focuses on the impact of climatic anomalies, and the resulting environmental disasters, on the lives of late nineteenth-century peasants and pastoralists living in regions of Asia Minor. She also studies the economics of pastoral nomadism, human-animal interaction, and the relationship between environmental change and conflict in areas inhabited by pastoral nomadic peoples in the Middle East, East Africa, Mongolia, South Asia, and the American Midwest. This is especially significant given the growing effects of global warming and rapidly changing climate patterns that present an existential threat to world populations, particularly herders/pastoralists who are under great stress as the result of increasingly frequent extreme drought.

The Ten Plants that Changed Minnesota

HORT 1901
3 Credits
LE: ENV
Fall 2018

May Meyer
Horticultural Science

This course will focus on the impact of the ten plants that have made the most difference in Minnesota. These plants changed the history of the state and had a major impact on the economy, culture, health, food, arts, and the environment. The weekly class will include student-led environmental discussions, guest lectures, and independent and small-group research that will result in written communications and website information especially related to the ten plants and their environmental impact in Minnesota. Students will be provided with transportation for four or five classes from the Minneapolis campus to the Arboretum, which will leave at approximately 5:00 p.m. from the Minneapolis Student Center. A portion of the class at the Arboretum will be learning about the Arboretum and its role in public education and the university.

May Meyer is a professor and extension horticulturist who specializes in plant breeding and genetics, and ornamental grass taxonomy. Her research areas include plant identification and landscape usage, ornamental and native grasses, and prairie restoration. In 2007, she released a patented little bluestem (Schizachyrium) “Blue Heaven.”
In this seminar we examine the life and work of Albert Einstein (1879-1955). The use of mathematics will be kept to a minimum. You will need no more than some basic high-school algebra and geometry. We begin by studying the special theory of relativity (1905) and some of its famous predictions such as time dilation, the twin paradox, and $E=mc^2$. While working our way through this material, we will also look at elements of nineteenth-century physics that played a role in the development of special relativity. We continue to pursue a historical approach when we turn to the general theory of relativity (1915), the theory that makes gravity part of (curved) space-time. We trace the development of this theory from 1907 till about 1920. Einstein worked intensively on this theory living in Berlin during the first World War (1914-1918). For this period, we shall also take a close look at Einstein’s personal life and at his tentative first appearances on the political stage.

Finally, we cover Einstein’s role in the development of quantum physics, both his early pioneering efforts in this field and his later opposition to quantum mechanics as formulated in the mid-20s. By the end of the course you should have a good understanding of some of Einstein’s most revolutionary ideas, of how he arrived at them, at what personal price, and in what broader socio-political and cultural context.

Michel Janssen completed his Ph.D. at the University of Pittsburgh, and is currently a professor in the Program in History of Science, Technology, and Medicine and the School of Physics and Astronomy, and a Fellow of the Minnesota Center for the Philosophy of Science at the University of Minnesota. He is a former co-editor of the Einstein Papers Project and co-editor of The Cambridge Companion to Einstein (Cambridge University Press, 2014).
The Symbolic Meanings of Money and Property

JOUR 1911
3 Credits
LE: GP
Fall 2018

Ken Doyle
Journalism and Mass Communication

Do you ever wonder why some people run away from money, while most people chase after it? Or why some people who could afford better buy their clothes at Savers while others (who maybe can’t afford it) prefer to shop at Gucci or Armani? Or why husbands and wives, and parents and children, so seldom agree on what to do with money? Understanding the symbolic messages money sends to people is the key to learning how to answer these questions. Whether your interest is business, liberal arts, or a particular profession, this seminar ought to be interesting and useful for you.

There’s truth to the rumor that Kenneth Doyle is a maverick. A former monk, retired financial planner and investment advisor, and a licensed financial psychologist, he comes at the meanings of money from many angles. Especially interested in crosscultural meanings of money, he is president of the Minnesota chapter of the Circumnavigators Club (limited to people who have circumnavigated the globe), and has visited 55 countries.

The Art and Science of Persuasion

JOUR 1912
3 Credits
Spring 2019

Ken Doyle
Journalism and Mass Communication

Seven days a week everywhere in the world, people are busily trying to persuade other people. Students want their professors to accept late work. Professors want students to throw themselves into their coursework. Advertisers want consumers to buy their products. PR practitioners want people to think more highly of their clients. Newspaper editorialists want readers to change their minds. Defense lawyers want juries to acquit their clients. And politicians want constituents to vote for them. Some of these people are very effective persuaders; others less so. In this course, we will search out the best techniques for persuading different kinds of people to do various things. We’ll study really good textbooks, meet top-quality professional persuaders, and search out real-life instances of good and bad persuasive efforts. And we’ll try our hands at persuading someone to do something that’s important to us. All the while we will be trying to build our own theories of persuasion and maybe have some fun!

There’s truth to the rumor that Kenneth Doyle is a maverick. A former monk, retired financial planner and investment advisor, and a licensed financial psychologist, he comes at the meanings of money from many angles. Especially interested in cross-cultural meanings of money, he is president of the Minnesota chapter of the Circumnavigators Club (limited to people who have circumnavigated the globe), and has visited 55 countries.

Linguistics and Biology

LING 1911W
3 Credits
Writing Intensive
Spring 2019

Jeanette Gundel
Linguistics

Before the Chomskyan revolution in linguistics in the early 1960s, the connection between linguistics and biology was largely restricted to the study of the anatomical properties of the human vocal tract involved in the articulation of speech sounds. In recent decades, however, the relation between linguistics and biology has begun to focus on the biological basis of human language, including connections between evolution of language and that of the human brain, and possible existence of “language genes.” In this seminar, we will examine the connection and relationship between linguistics and biology over time, with specific focus on how this reflects development of the field of linguistics as well as more generally the nature of interdisciplinarity.

Jeanette Gundel has been teaching linguistics at the University of Minnesota for over 30 years. She has always been interested in how language interacts with other cognitive systems and in its biological basis. She has published over 60 articles and currently serves as director of the Institute of Linguistics and associate director of the Center for Cognitive Sciences.

Invented Languages

LING 1912
3 Credits
Fall 2018

Jean-Philippe Marcotte
Linguistics

As far back as we can tell, there have been thousands of natural languages spoken by humans the world over. 7,102 today, according to a recent authoritative count. So why are there also hundreds and hundreds of invented languages? What niche are they intended to fill? And why did so few of them make it out of the works of their inventors? In this seminar we will approach these questions by looking at languages invented by philosophical taxonomists during the Enlightenment, by internationalists in the late 1800s, by simulationists in the 1900s; we will take a look at online communities of language inventors to understand what makes them tick, and see how invented languages and their inventors are portrayed in the media. To get the most out of all this we will also have to talk about the properties of natural languages: how they are structured, how they are used, how they change over time, and why there are so many of them.

At an impressionable age, Jean-Philippe Marcotte became fascinated with the invented languages of J.R.R. Tolkien, discovered he had been a philologist, and made sure to pick a college with a philology course. But introduction to linguistics was a prerequisite, and JP has been on that sidetrack ever since. He has been teaching at the University of Minnesota for 10 years.
When it Hits the Fan: Business, Crisis Communication, and Social Media in a Risky World

MGMT 1910W
3 Credits
Writing Intensive
Fall 2018

Holly Littlefield
Strategic Management and Entrepreneurship

Effective crisis communication is increasingly important in a world of expanding technological dependence, sociopolitical instability, and daunting environmental challenges. Crises can be broadcast around the world in minutes via social media, creating negative headlines for months. In addition, complex, world-wide problems like climate change, religious fundamentalism, cyber security, health care, population growth, urbanization, and terrorism require effective communications to lessen the consequences of a crisis on an organization’s activities, reputation, and stakeholders. We will examine a variety of current international and national case studies to examine what went wrong and consider how businesses can better prepare for, prevent, and respond to global crises.

Holly Littlefield has taught business and international communications at the University of Minnesota for 18 years. She has worked as an editor, columnist, textbook writer, and communications consultant for business and organizations such as Tata Consulting Services, Target Corporation, Cima Labs, Carlson Companies, and Gildan/Boston Scientific. She has also received Carlson’s Honors Undergraduate Teacher of the Year Award.

Happily Ever After: Brands and Storytelling in Ireland

MKTG 1916
3 Credits
Spring 2019
Julia Van Etten
Marketing

Since the beginning of time, human beings have been captivated by stories. Stories engage, persuade, and motivate. Storytelling is widely used in business. In marketing, some of the strongest brands leverage their heritage; others have powerful origin or founder stories at their core. Advertisers routinely employ storytelling techniques as a way to attract a customer’s attention and keep it. Ireland is a country with a rich storytelling tradition. Irish culture, history, and music abound with myth, lore, and legend. This course is intended to explore the components of effective storytelling and the many methods of storytelling including written, oral, music, film, and digital media to investigate the role of storytelling in business and culture.

Julia Van Etten is a Senior Lecturer in the Carlson School of Management. She teaches a variety of undergraduate courses including Principles of Marketing, Marketing Research, and Brand Management. She is a customer insights and branding expert who has been consulting for more than 20 years with companies and non-profit organizations such as 3M, General Mills, and Greater Twin Cities United Way. Julia has traveled widely as both tourist and student to more than 15 international cities including Moscow, Vienna, Sydney, Athens, and Warsaw. Most recently she completed a magical, 14-day, coast-to-coast hiking tour in Ireland from Dublin to Cork to Galway! Her three great loves are her dog, Jessie; husband, Mark; and the movies. Not necessarily in that order.

Music in Nazi Germany

MUS 1914W
3 Credits
LE: CIV
Writing Intensive
Fall 2018
Karen Painter
Music

Apart from an explicit message in the lyrics, title, or dedication, can music itself be political? Often, the political message comes from the interpreter, not just the composer or performer. Are composers responsible for the effect of the music, regardless of their intentions? How have those in power sought to legitimize their rule through the arts? Can the arts maintain their independence? What is the responsibility of the listener in a highly political environment? This seminar will examine the role of art and art censorship by focusing on one of history’s most brutal regimes, which was also among the greatest patrons of music. What compromises and benefits followed when a musician, conductor, or composer collaborated? Did exploiting music actually help the Nazis to build support? How should citizens of democratic societies commemorate and/or judge the choices that artists made in harsher times?

Karen Painter studied music and philosophy at Yale, and obtained her Ph.D. in musicology from Columbia. Before coming to the University of Minnesota in 2007, she taught at Dartmouth and Harvard, and served as senior staff at the National Endowment for the Arts. She received a Berlin Prize in 2000 and was a Maître de Conferences invitee at the School of Advanced Studies in Social Sciences (EHESS) in Paris in 2010. She and her husband have three school-aged children.

The Color of Music

MUS 1915
3 Credits
Fall 2018
Gabriela Currie
Music

How are sounds depicted? How are colors sounded? How do the worlds of music and fine arts intersect and construct meaning that is both specific to each and shared by both? How does each help us experience the world around us in different yet complementary ways? In this seminar you are invited to join a semester-long journey which seeks some answers to these questions through immersion in the sounds, shapes, and colors of Western European art across many centuries. We will be looking at art and listening to music, while learning how to express what we perceive to be interesting, beautiful, and meaningful about their relationship and our reaction to them.

The sounds and sights of cultures around the world have always been one of Gabriela Currie’s passions. In her journeys of discovery, she seeks to experience them first-hand or mediated through modern technology. In particular, both as a scholar and as a human being, she wants to understand how these different modes of expression intersect and permeate our lives with meaning. She believes this makes life as fascinating as it makes it exciting, and she invites her students to share in that thrill of discovery.
The Philosophy of Food: You Are What You Eat... Or Are You?

PHIL 1915
3 Credits
Fall 2018

Jessica Gordon-Roth
Philosophy

Food is a central feature of our lives. Not only do we need it to survive, but it is what brings us together. Just think about how many of our daily activities, and important milestones, are centered around food! But, what is food, exactly? Does something have to nourish us, to count as food? Is candy food? What about beer? What is taste? What does it mean to have manners? And why are there so many manners associated with food? What kinds of food should we eat? Is eating foods that are sourced locally really better? Are genetically modified foods bad? What about eating meat? How do we square the ubiquity and importance of food with Western standards of beauty, especially for women? How should food be distributed? What does it mean about a culture if foods that are considered bad for us are the only ones that vast segments of the population can afford? These are just some of the questions we will ponder in this freshman seminar.

Jessica Gordon-Roth is an assistant professor in the Philosophy Department, who came to the U from the City University of New York. She spends much of her time pondering what makes anyone a person, and what makes any person the same person over time, as discussed during the seventeenth century. When not working, she enjoys traveling, and the eating, drinking, and cultural exploration that goes along with it. Hence this course, focused on the philosophy of food!

What’s So Great About Classical Music?

PHIL 1916W
3 Credits
Writing Intensive
Fall 2018

Michael Kac
Philosophy

Despite what you may have heard, classical music isn’t just a dry, arid landscape of interest only to culture snobs. The great masterpieces are supreme products of the human imagination touching on all aspects of the human condition - comic, tragic, sacred, profane. This is music that has moved generations of listeners to laughter and to tears, while at the same time inviting them to contemplate and reflect on its inner order and architectural grandeur. This seminar will present some of the great works of the classical tradition along with an explanation of what makes them so remarkable. No prior knowledge about music is required - just an open mind.

Michael Kac, professor of philosophy and linguistics, is a musician and composer with extensive experience in both the classical and popular fields. From 1967-69 he played electric harpsichord with the rock band Mandrake Memorial, with whom he recorded two albums. More recently, he spent a number of years as part of a duo with guitarist Linda Cohen performing music in an eclectic blend of styles. He also performs regularly on the Twin Cities folk-music circuit.

Global Warming Solutions

PHYS 1901
2 Credits
Fall 2018

Eric Ganz
Physics and Astronomy

In this seminar, we will consider various possible solutions to the current and future global warming problem. This is a topic of intense global importance. Topics will include efficiency and conservation, reduced carbon in electricity production and transportation, wind and solar power, nuclear power, policy changes, third world solutions, reforestation, and more.

Eric Ganz is an associate professor in the Department of Physics. His area of expertise is condensed matter physics.

Global Warming Solutions

PHYS 1902
2 Credits
Spring 2019

Eric Ganz
Physics and Astronomy

Nanotechnology is increasingly important in our modern world. Topics in this course will include nanoscale imaging by electron, tunneling, and atomic force microscopy. We will study the unique properties of nanomaterials, including carbon nanotubes and graphene. We will explore microelectromechanical systems and nanoelectromechanical systems, nanoscale computer simulation, nanoelectronics, nanosensors, and nanorobotics. We will also discuss applications in medicine, drugs, and energy.

Eric Ganz is an associate professor in the Department of Physics. His area of expertise is condensed matter physics.
Quantum Mechanics for Everyone

PHYS 1903
2 Credits
Fall 2018

Allen Goldman
Physics and Astronomy

Aurora: From Myths to Modern Science

PHYS 1905
2 Credits
Fall 2018

Cynthia Cattell
Physics and Astronomy

What is Space Weather (and Why Should You Care)?

PHYS 1906
2 Credits
Fall 2018

Cynthia Cattell
Physics and Astronomy

The Physics of Warfare

PHYS 1907
2 Credits
Spring 2019

Allen Goldman
Physics and Astronomy

One of the greatest intellectual accomplishments of the twentieth century was the development of quantum mechanics, a field of physics which describes the counter-intuitive behavior of molecules, atoms, light, and subatomic particles. Can you pass through a solid wall without disturbing yourself or the wall? An electron can and does repeatedly in many common semiconductor devices. Without an understanding of quantum mechanics, neither the transistor nor the laser could have been invented. A significant fraction of the entire economy is based on technological developments that derive directly from quantum mechanics. This class will examine, with a bare minimum of mathematics, the conceptual foundations of the strange world of the quantum as well as its connection with devices and systems that we take for granted in our everyday lives.

Allen Goldman served as the head of the School of Physics and Astronomy from 1996-2009. His research is in the area of experimental condensed matter physics. The specific work on superconductivity involves the application of quantum mechanics to macroscopic systems.

The aurora, or northern lights, have long fascinated humans. We now know that aurora occur on many other planets, including Jupiter, Neptune, and Uranus. We will examine the myths from both the northern and southern hemisphere that were devised to explain this beautiful natural phenomenon. The development of our scientific understanding of the aurora is littered with completely incorrect explanations by prominent scientists. It is only with the new measurements made after the space age that we have finally begun to understand the aurora--both on the Earth and on other planets. If the space weather cooperates, we will try to observe the aurora.

Cynthia Cattell is a professor in the School of Physics and Astronomy. She first saw the aurora on a climbing expedition in Alaska, as a college freshman. Little did she know at that time that the study of the physics of the aurora would become the topic of her doctoral dissertation, and the research of some of her students.

In this class, we will explore the way our sun changes over the eleven-year solar cycle and how this can affect events from airline travel, cell phone coverage, and power outages to beautiful aurora and manned spaceflight to Mars. We will also touch on space weather on other planets (including exoplanets) and the possible impact on development of life. If the space weather cooperates, we will try to observe the aurora and related phenomena including sunspots.

Cynthia Cattell is a professor in the School of Physics and Astronomy. Her research interests include space plasma physics; auroral particle acceleration; particle acceleration and wave processes in Earth’s radiation belts; non-linear plasma physics; magnetic reconnection, and shocks.

Throughout history and even today, military leaders contemplating war, or involved in it, are always looking for some advantage over their enemies. Most have searched for a new type of wonder weapon, one that the enemy does not have. It is frequently physics that provides a path to this new weapon. Physics and science and technology in general have been of tremendous value to contemporary military leaders. They have given them an understanding of the electromagnetic spectrum so that radiation can be used in various military applications. They have also given them an understanding of rocketry and jet engines, and knowledge of the secrets of the atom so that it is possible to engineer weapons of mass destruction. This course will provide an overview of most branches of physics and in the process of doing so will show how physics has been used for military applications. It will to some extent provide a summary of the history of warfare from the first bows and arrows and chariots, through contemporary weapon systems. Students enrolled in this seminar will learn some physics, and hopefully they will take away enough understanding of contemporary military technology to be informed citizens on issues that command such a large fraction of the national budget.

Allen Goldman served as the head of the School of Physics and Astronomy from 1996-2009. His research is in the area of experimental condensed matter physics. The specific work on superconductivity involves the application of quantum mechanics to macroscopic systems.
What is Time?
PHYS 1910W
2 Credits
Writing Intensive
Spring 2019
Woods Halley
Physics and Astronomy

The precise meaning and use of the concept of time has evoked serious study and debate among the most able of human thinkers for more than 2,000 years. In this seminar, we will review several of the current perspectives as well as some of this history of the concept of time from the points of view of philosophers, biologists, psychologists, and physicists.

Woods Halley teaches physics courses at all levels and directs research programs in low temperature and chemical physics. He is a fellow of the American Physical Society and the Minnesota Supercomputing Institute, as well as a member of the University of Minnesota graduate faculties of physics and materials science.

How Likely is Extraterrestrial Life?
PHYS 1911W
2 Credits
Writing Intensive
Fall 2018
Woods Halley
Physics and Astronomy

The goal of this course is to familiarize students with the main available scientific facts and arguments which bear on the question of the likelihood of extraterrestrial life. A second goal is to familiarize students with aspects of the various relevant disciplines early in their university careers when they may still be selecting a major. The third goal is to provide familiarity with information resources at the university, particularly through the library, as well as improved reasoning, writing, and speaking skills.

Woods Halley teaches physics courses at all levels and directs research programs in low temperature and chemical physics. He is a fellow of the American Physical Society and the Minnesota Supercomputing Institute, as well as a member of the University of Minnesota graduate faculties of physics and materials science.

Sequencing Plants, Pets, and Pathogens: The Genomics of Non-Humans
PLPA 1902
3 Credits
Fall 2018
Nevin Young
Plant Pathology

This seminar will examine genomic insights into plants, animals, and microbes. Students will explore DNA sequencing of crop varieties, animal breeds and disease pathogens, the genomes of primates, the genetic basis of domestication, genome engineering, synthetic genomes, and the sequencing of microbial communities; primarily through readings taken from contemporary, popular press articles as well as in-class practicums, activities, and debates.

Nevin Young is a genomics and professor of plant pathology. His lab studies legumes plants (like soybean and alfalfa), focusing on the genetic basis of disease resistance and symbiosis with nitrogen-fixing microbes. In the classroom, he teaches courses in genomics and biotechnology, exploring recent discoveries in these fields and their impact on public and environmental policy debates.

Communism, Islamism, and Democracy in Central Asia
POL 1911
3 Credits
Spring 2019
Kathleen Collins
Political Science

This course will examine the twentieth and twenty-first century political trajectories of the countries of Central Asia (Uzbekistan, Tajikistan, Kazakhstan, Kyrgyzstan, Turkmenistan, Afghanistan, Pakistan, and Azerbaijan). We will read works that discuss the pre-modern tribal and clan-based structures of these societies, as well as the urban Islamic settlements that were long centers of Islamic scholarship and of the Silk Road. We will examine the massive repression of the communist era, and the consequences for Islam, clan, and tribe. Then we will turn to the rise of post-Soviet forms of political Islam, in the context of a growth in corruption and new dictatorships. We will consider attempts at democratization and the causes of their failure. Later, we will contrast Soviet Central Asia with its southern neighbors, Afghanistan and Pakistan. Our focus will be on the growth of the Taliban in the wake of the Soviet-Afghan war, and more recently. Finally, we will consider United States policy in the region.

Kathleen Collins is an associate professor in the Department of Political Science. She is the author of “Clan Politics and Regime Transition in Central Asia” (New York: Cambridge University Press, February 2006), which won the Central Eurasia Studies Society Book Award for Social Sciences. She has published articles in Comparative Politics, World Politics, the Journal of Democracy, Europe-Asia Studies, Political Research Quarterly, and other journals. She is currently writing a new book, tentatively titled “The Rise of Islamist Movements: Islam and State in Central Asia and the Caucasus.”
Contemporary Civil Wars

POL 1915
3 Credits
Spring 2019

Kathleen Collins
Political Science

Why did civil war erupt in Syria, but not Jordan? Why has the Syrian regime targeted civilians so brutally? How will the rise of the Islamic State affect the conduct and conclusion of the civil war? How will the fractured nature of the rebels affect the possibilities for peace? Will additional international intervention prolong war or bring it to a close more quickly? Will the Kurdish minority that populates parts of Syria, Iraq, and Turkey finally gain an independent state? We will address these and other questions in this class, keeping in mind the effects that civil wars have on ordinary citizens in war-torn countries. We will focus particularly on developing an operational definition of civil war, understanding causes of civil war, examining strategies of violence employed in civil war, and civil war termination. Current events, such as those in Syria, Yemen, Colombia, Ukraine, South Sudan, and the Central African Republic will be brought into the class throughout the semester.

Tanisha Fazal is an associate professor in the Department of Political Science whose scholarship focuses on sovereignty, international law, medical care in conflict zones, and armed conflict. She is the author of “State Death: The Politics and Geography of Conquest, Occupation, and Annexation” (Princeton University Press, 2007), which won the 2008 Best Book Award of the American Political Science Association’s Conflict Processes Section, and “Wars of Law: Unintended Consequences in the Regulation of Armed Conflict” (Cornell University Press, 2018). She is a particular fan of maps, sci-fi/fantasy novels, and chocolate (in no particular order).

Psychological Perspectives on Women and Work

PSY 1911
3 Credits
Fall 2018

Kristen Kling
Psychology

Are you male or female? Your answer to this simple question will influence your experiences in the workplace. In this seminar, we will examine the empirical studies that document important gender differences in work. We will begin by learning about gender differences, with a focus on personality traits and cognitive abilities. Next, we will focus on specific issues such as the wage gap, prejudice and discrimination in the workplace, gender differences in leadership, the impact of motherhood on women’s careers, and the influence of child care on psychological development. This seminar will provide all students with an important perspective on their upcoming experiences as members of the workforce.

For Kristen Kling, nothing is more interesting than gender. She is interested in both how men and women differ from each other, and how men and women are treated differently by others based on their gender. As a senior in college she took a course titled, “Multidisciplinary Perspectives on Women,” which inspired her to pursue graduate studies that included a focus on gender. Psychology offered her the perfect intellectual home, allowing her to immerse herself in the empirical work that examines the many ways that gender influences our own life experiences.

Brain Science, Drugs, and Society

PSY 1911
3 Credits
Spring 2019

Monica Luciana
Psychology

This course will examine substance use and misuse from the perspective of brain science. Mental health and societal issues surrounding drug and alcohol use will be covered including information from the popular media, government, and scientific research. Viewpoints surrounding each topic will be scrutinized through the lens of current brain and behavioral research. Students will gain a deeper ability to think critically and scientifically about popular beliefs regarding substance use. For instance, despite decades of study, existing research does not make clear whether brain deficits in human substance users are caused by misuse of substances, or caused by pre-existing factors (e.g., genetics, home environment) that predate substance use and predispose individuals to misuse in the first place. The course will draw from interesting new research conducted by faculty at the University of Minnesota and elsewhere to gain insight into this uncertainty. Although we will discuss these topics from a neurobiological standpoint, a background in neuroscience is not expected or necessary.

Monica Luciana is a Distinguished McKnight University Professor. Her research focuses on adolescent drug use. As a professor in psychology with clinical psychology as her specialty, she has decades of experience in clinical and experimental neuropsychological assessment.
This seminar examines the nature and meaning of being racial and ethnic minorities in the United States, with a particular focus on immigrant, refugee, second-generation, and adoptee communities that are unique to Minnesota and the Midwest. Students will learn about the unique and common histories, struggles, and successes of Blacks, Asian Americans, Latinx, and American Indians. Drawing upon psychological theory and research, as well as interdisciplinary ethnic studies scholarship, the seminar engages students in a critical analysis of the ways in which race, ethnicity, and migration affect the everyday lives of racial/ethnic minority individuals and families.

Rich Lee’s research examines the ways in which race, ethnicity, culture, and migration affect the psychological and social lives of ethnic/racial minority individuals and families. He is most fascinated by how parents talk (or don’t talk) to their children about racial and ethnic issues, how individuals develop racial and ethnic identities, and how people experience and confront racism and discrimination in everyday life. His current work involves helping Hmong American parents become better parents. When not at work, Rich spends time with his wife and two young children and when time permits he rides his bike, sings karaoke, and cooks meals without recipes.

Uncovering “Fake” News: Deciphering Science in the Media

This course investigates the role of the psychological scientist in the age of “fake” news. How do we responsibly digest, interpret and communicate scientific findings in a world of pay-to-publish scientific articles and social media outlets capable of spreading misinformation far and wide? Students will be introduced to basic knowledge of statistics and scientific method, responsible research communication and dissemination procedures, and the rhetoric and ethics of science. No previous knowledge of psychology is required.

Amanda Rueter investigates many topics ranging from brain mechanisms to the personality traits that make a person more likely to achieve their goals. She loves answering questions about pop-psychology and helping students understand how to apply psychological concepts to interactions in their daily life. She lives in St. Paul with her husband on an urban lot that has too many gardens and not enough chickens. She enjoys taking photographs, gardening, reading, cycling, and hiking.

Abbey Hammell investigates the biological and behavioral mechanisms surrounding how organisms (mostly humans) learn about and respond to threat — and how aberrations in these mechanisms may lead to pathological anxiety. She is also particularly fond of learning new statistical methods. When Abbey is not teaching or doing research, you can usually find her hiking, kayaking, reading, playing board games, or playing video games on her PC.

Islam in America: A History of the Present

From the “Age of Discovery” and the African slave trade, to Malcolm X and the War on Terror, Islam has long been an integral part of the American landscape. In this seminar students will examine the history of Islam and social formation of Muslim communities in the United States. We will explore the ways in which racial, national, cultural, and sectarian differences within and between Muslim communities have shaped and shifted what it means to be Muslim in the United States. And, we will ask what tracing the history of Islam can tell us about the role of religion in the United States more broadly.

Aisha Ghani is an anthropologist of religion, with research interests at the intersections of Islam, secularism, and law in the United States. Her ethnographic work has been focused on the role of American courts in the management and regulation of Islam and Muslim communities in the United States.

Diversity in Social Communication

Social communication is the process of interacting with others to send a message. It includes speech, language, and nonverbal communication such as eye contact and gestures. Social communication develops from infancy and changes over the lifespan. There are differences in social communication across cultures, generations, genders, and communication disorders. This course will provide students with an understanding of what social communication is and how it develops, how it relates to speech and language, how it differs from person to person, and how speech-language pathologists and other professionals evaluate and treat social communication impairments. The course will focus on neurodiversity related to autism as well as on cultural self-awareness and building cultural competence.

Sheri Stronach has always been a word nerd. As a “cusper” between generations X and Y, Sheri is as tied to paper books as she is to her iPhone. Her favorite activities include reading by the fireplace and Snapchatting with her nephews. She is fascinated by how people communicate and the impact of culture on communication. Her current research focuses on two main areas: social communication across cultures and autism. She teaches courses on various aspects of speech-language pathology as an assistant professor in Speech-Language-Hearing Sciences and leads the department’s Bilingual and Multicultural Emphasis Program.
U.S. Latino/Latina American Theaters and Cultural Studies

SPAN 1911
3 Credits
Fall 2018

Luis Ramos-Garcia
Spanish and Portuguese Studies

A wide variety of Latino groups have used the stage to explore identity issues in a public forum and have developed nontraditional approaches which have altered the nature, quality, and substance of recent theater in the United States. These theaters have attempted to break the mainstream theater's hegemony by addressing the audience's desire to see their problems enacted in understandable and creative terms. Through an interdisciplinary approach which will include lectures and visual material, the course will introduce established and works-in-progress of United States Latin(o) playwrights, and the historical, political, and cultural development framework which made it possible. Delivered in English, the course will be of special interest for those in search of a better understanding of the construction of English-Spanish cultural and theatrical discourses within and outside of the United States.

Luis Ramos-Garcia is an associate professor and an internationally recognized researcher, critic, and author in the areas of cultural studies, human rights, and theater. In 2017, he won the President’s Award for Outstanding Service and a Grand Challenges Research Grant. As an independent Human Rights researcher, he is the founder (1995) and director of The State of Iberoamerican Studies Series in the Department of Spanish and Portuguese Studies. One of his latest books is "The State of Latino Theater in the U.S." (London: Routledge, 2002). He also received the President’s Faculty Multicultural Research Award for his research on U.S. Latino Theater (1998-1999 and 2007).

Big Data for the Social Good

STAT 1911
3 Credits
Fall 2018

Zack Almquist
Sociology. Statistics

How are companies, non-profits, and governmental agencies using Big Data, modern statistics, and machine learning techniques to improve our lives? In this course we will explore how cities are using statistics and Big Data for a variety of outreach programs, including helping people avoid foreclosure/keep their homes, improving traffic flow of all kinds -- from walking and running paths to roads and public transit routes -- and more! We will explore how charities and non-profits are using Big Data to improve charitable giving and access to resources for those who need it, how school districts and public charter schools are using Big Data to improve K-12 education, and finally we will explore how companies like Facebook and Google are using statistics and online Big Data to change modern cities and developing countries. Big Data touches our everyday lives, and this course will explore the good our data can be used for.

Zack Almquist grew up in Bend, Oregon and has lived in Chicago, Illinois; Irvine, California; Seattle, Washington; and the Twin Cities. Besides teaching and research, Dr. Almquist enjoys running year-round and being a father to his young son Milo. He has long been interested in what Big Data (online behavioral trace data) can tell us about the social world. Recently, he has been collecting and analyzing data on physical and social activities online via the STRAVA app (a running and cycling app available on a smartphone).

Attending (to) Theater

TH 1911W
3 Credits
Fall 2018

Sonja Kuftinec
Theatre Arts and Dance

How do we attend and attend to theater in the Twin Cities? This seminar introduces non-theater (and potential) majors to the richness of small and mid-sized theater in the Twin Cities such as Penumbra, Open Eye, and Ten Thousand Things, attending 8-10 performances together. Workshops and discussions with theater professionals will help us to develop critical and creative language to think, write about, and potentially create live performance. We’ll think together about how theater might forge a different kind of “commonwealth.”

Sonja Kuftinec has been making and attending theater for over forty years (if you count her “original” first grade princess plays). Since then she has branched into creating theater with youth in the Balkans, Israel/Palestine, Afghanistan, and Minnesota. She has written about theater developed with Chicano farm workers, Israeli prisoners, North Dakota bartenders, and Minnesota Vikings fans. She is fascinated by how theater helps us to forge, negotiate, and express community whether we make it or watch it. When we exercise our imaginations together we hone a muscle that’s essential for world-making.

The Great Actresses and Divas of Theatre, Films, Opera, and Musicals

TH 1913
3 Credits
Fall 2018

Elizabeth Nash
Theatre Arts and Dance

This seminar highlights actresses and divas from Byzantium’s Empress Theodora in the sixth century to America’s Barbra Streisand in the 21st. The activities of their male contemporaries are well documented, but the female performers have been sadly neglected. The names of Sarah Bernhardt, Maria Callas, Meryl Streep, and Julie Andrews are generally recognized, but what about Isabella Andreini, Lillian Gish, Marian Anderson, and Josephine Baker? All have made unique contributions to theatre, film, opera, and the musical as leading female performers of their time. They were and are the role models who inspire future generations.

Elizabeth Nash received her B.F.A. from Columbia University and was awarded a two-year Fulbright Grant to study opera in Germany. For the next ten years, she was a leading soprano in German opera houses. After returning to the United States, she earned an M.A. at Columbia University, followed by a Ph.D. at Indiana University. She is an associate professor of voice production in the Theatre Arts Department. In addition, she is the author of Geraldine Farrar Opera’s Charismatic Innovator, The Luminous Ones: A History of the Great Actresses, Pieces of Rainbow, the Memoirs of Sylvia Olden Lee and Autobiographical Reminiscences of African-American Classical Singers.
Cyborgs and Hackers: The Ethics of Digital Life

TH 1914
3 Credits
Fall 2018

Sonali Pahwa
Theatre and Dance

Beings with artificial intelligence have raised ethical questions ever since they were fictional characters, such as the robot in the silent film Metropolis (1927). As contemporary technology expands the use of artificial intelligence, principles of ethical responsibility are up for constant debate. We explore ethics in the age of technology by examining how humanity is imagined in the art, science, and everyday life of artificial intelligence. Theater plays and films about cyborgs invest them with feelings, and question their exploitation by humans. Meanwhile, contemporary drones and robots are programmed with data drawn from humans, and evoke different fears of machines taking over the planet. We compare cyborg and hacking cultures to see how human and artificial intelligence engage with each other, and how their battles shape our concepts of intention and responsibility.

Sonali Pahwa studies gender performance in digital media, transnational youth cultures, underground theater, and posthuman intelligence. She enjoys science fiction cinema and experimental cooking.

The Dynamic History of Musical Theatre: From Fairy Queen to Les Mis to Hamilton

TH 1915
3 Credits
Spring 2019

Elizabeth Nash
Theatre Arts and Dance

This course focuses on the history of musical theatre as well as on its dynamic interpretation. Our goal is to explore a wide range of musical theatre forms and styles. Along with the annotation and performance of monologues and song lyrics, there will be in-class viewings and discussions of The Fairy Queen (Purcell), The Beggar’s Opera (Rich and Gay), Topsy-Turvy (Gilbert and Sullivan), Show Boat (Kern and Hammerstein), Oklahoma (Rogers and Hammerstein), Into the Woods (Sondheim), The Making of the Broadway Album (Streisand), The London Concert (Peters), Les Misérables (Schönberg), Sweeney Todd (Sondheim), 2013 American Song Book (Chenoweth), and Hamilton (Miranda).

Due to the performing emphasis of this course, attendance is required and will figure in grading. By the end of the course, students will have the knowledge and ability to interpret with confidence challenging texts of heightened language and lyrics.

Elizabeth Nash received her B.F.A. from Columbia University and was awarded a two-year Fulbright Grant to study opera in Germany. For the next ten years, she was a leading soprano in German opera houses. After returning to the United States, she earned an M.A. at Columbia University, followed by a Ph.D. at Indiana University. She is an associate professor of voice production in the Theatre Arts Department. In addition, she is the author of Geraldine Farrar Opera’s Charismatic Innovator, The Luminous Ones: A History of the Great Actresses, Pieces of Rainbow, the Memoirs of Sylvia Olden Lee and Autobiographical Reminiscences of African-American Classical Singers.

Arguing with Authority: The Past, Present, and Future of Higher Education

WRIT 1915W
3 Credits
Writing Intensive
FALL 2018

Patrick Bruch
Writing Studies

This freshman seminar will introduce students to the intellectual projects of studying and participating in higher education as a participatory institution by inviting freshmen into critical dialogue with past, present, popular, and academic representations of higher education and its civic purposes. We will examine the shifting role of the university in public life and the roles that students and other constituencies have played in shaping the character of higher education through writing and other activities. Designed specifically for first-year students, the course will combine academic skill-building with personal and collective reflection on the actual and possible purposes and values of higher education for individuals and the society.

As a kid, Patrick Bruch got into trouble for questioning authority. When he went to college, he was happy to find that questioning authority is central to the university’s mission of creating new knowledge. This background informs his current research into the ways that regular people influence and shape powerful institutions, such as education. He studies writing, the teaching of writing, and higher education, all with an eye on the power of regular people to create a world that serves the interests of justice, fairness, and democracy.

Magazines and New Media

WRIT 1925W
3 Credits
Writing Intensive
Fall 2018

Thomas Reynolds
Writing Studies

In this seminar, we will study magazines and other smaller publications - some of which you’ve already read, some of which you haven’t - to discuss and write about their significance as cultural artifacts. How can magazines, when seen as “composed” objects, help us with our own writing? How is the rise of the zine and e-zine responding to the evolving digital age? We will examine all aspects of the magazine, including its art, political statements, target audience, and history. Students will practice some of the forms that the class reads and create an e-magazine.

Tom Reynolds’ research and teaching examines ways that magazines and other popular forms of writing technologies “teach” us how to live our everyday lives and with what cultural assumptions. He is interested in exploring written and visual elements, and how these play out in print and new media writing.
### Freshman Seminar Notes

Use this worksheet to track the seminars you are interested in taking.

<table>
<thead>
<tr>
<th>Title</th>
<th>Course #</th>
<th># of Credits</th>
<th>LE</th>
<th>WI</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Black Death: Plague in History</td>
<td>HIST 1915</td>
<td>3</td>
<td>No</td>
<td>No</td>
<td>33</td>
</tr>
</tbody>
</table>
THE UNIVERSITY OF MINNESOTA IS AN EQUAL OPPORTUNITY EDUCATOR AND EMPLOYER.

THIS PUBLICATION/MATERIAL IS AVAILABLE IN ALTERNATIVE FORMATS UPON REQUEST.

PLEASE CONTACT THE OFFICE OF THE VICE PROVOST AND DEAN OF UNDERGRADUATE EDUCATION
220 MORRILL HALL
(612) 626-9425
OUE@umn.edu