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**FIS 394 Antarctica:**

**Humans and the Environment**

**and**

**FIS 394 Antarctica: The Frozen Continent**

6 credit hour

2018 Study Abroad Program

**Study Abroad Antarctica** includes a fall online course and a two week field excursion to Antarctica via Ushuaia, Argentina over winter break. The course is a collaboration among SUNY Brockport, Virginia Tech, The Ohio State University, and Arizona State University as well as American Universities International Programs (AUIP), University of Canterbury, New Zealand, and Gateway Antarctica: Centre for Antarctic Studies and Research.

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**Course Description:** Antarctica is a wondrous place – the “coldest, windiest, driest, highest, quietest, most remote, and least understood continent on earth.” It has been an object of human speculation for millennia and a prize for explorers, sealers and whalers, scientists, and geostrategists for more than two hundred years. The course examines this unique corner of the world and provides a broad overview of its human and natural history. Special attention is given to Antarctica’s physical and ecological systems as well as human activity in the region, sustainable tourism, and use of south polar resources.

During the fall online course, students “attend” weekly online lectures **webcast in real-time Wednesdays at 6-7:30 pm Eastern Time from August 29 – December 5** [Note that because of Daylight Savings Time, the time will change for those of us in Arizona. Students should contact Prof. Wetmore if accommodations need to be made for this change.] During the fall students will write and rewrite a short essay, complete a midterm project and final essay exam, prepare an independent research paper in their area of interest, and submit an annotated bibliography of their field course readings. During the two-week Antarctic excursion via Ushuaia, Argentina, students work on one-of-two group field studies (with ship-board presentation and post-trip group paper submission), and submit journal entries (during the trip) and a post-trip synthesis essay and a media outreach assignment. The field course begins with a group overnight flight from Miami, FL on December 16 and culminates with an overnight flight landing in Miami early morning on December 31. When students return from the trip they will submit a revised version of the research paper, a Group Field Study Report, a Course Synthesis Paper, and a Retrospective Media Outreach Project.

**Course Objectives-** Students will:

1. Develop, through lectures and assigned readings, an interdisciplinary understanding of the biophysical and human dimensions of life in Antarctica, as well as its history and potential future.

2. Develop specialized knowledge, through independent study, of the issues in a specific, chosen area of Antarctic inquiry (e.g., history of science/exploration, environmental ethics, geology and global climate change, marine bird or southern forest conservation, etc.).

3. Develop, through field study, critical appreciation of issues in exploration, exploitation, conservation, and sustainable tourism in the Antarctic region.

4. Enhance intellectual maturity and confidence through teamwork, cross-cultural engagement, and self-reflection.

**Fall Online Lecture Attendance:** Viewing all online lectures (live or archived) and active participation in online discussions is required. It is **expected** that students view the online lectures “live” (unless they receive prior approval from course instructor to watch taped version) so that they can write in questions for the presenters and stay on top of coursework.

**Field Course Attendance:** Punctual attendance and active engagement is required for all scheduled, program–related activities (e.g. group meetings, field excursions, lectures and student presentations) unless student receives course instructor approval - students will lose 10% of their final grade for chronic lateness or for each day or part-day they fail to participate. Participation in voluntary field activities is at the discretion of the student (with consultation of course instructors). **Please note**- students must not leave the group without consent of faculty leaders.

**Academic honesty:** Students are expected to conduct themselves in a professional manner and produce honest and ethical academic work. Academic dishonesty will not be tolerated. This includes giving false reasons for missing assignment deadlines, tolerating academic dishonesty of others, and plagiarism— copying and/or representing another person’s words or ideas as one's own. All academic work must meet the standards for academic honesty for your university: https://provost.asu.edu/academic-integrity

**Course Management Software:** All students participating in the course will use **Blackboard**, The College at Brockport’s course management software.

**Course Assignments**

This course is divided into two parts. Half of the activities are done on the ground in the United States. The second half of the activities will take place in Chile, on the boat, and in Antarctica during the two week study abroad program. Students will receive 6 credit hours for the full program. Because the course is broken into two parts, the points in the first part add up to 100% and the second part add up to 100%, each roughly equaling 3 credit hours.

**Part A: Online Course**

*1. Midterm assignment and final essay exam (35%)*

The midterm assignment and final essay exam are currently posted in the Blackboard course page

 **Midterm assignment** submitted via the Blackboard *midterm assignment dropbox* using filename *“student lastname midterm assignment”* is due **November 6** (*15%*)

 **Final essay exam** submitted via the Blackboard *final essay exam dropbox* using filename *“student lastname final essay exam”* is due **December 4**. (*20%*)

*2. Short essay (15%):* Students will write and rewrite a 500 word essay based on topics currently posted in Blackboard that draw on course lectures, course readings and at least two external sources (essays <450 words or >550 words will be returned for author revision).

 The **first** **essay** submitted via the Blackboard *Essay #1 dropbox* using filename *“student lastname essay #1”* is due **September 30**. (*5% of grade*)

 Students will receive feedback in the form, writing, and argument of their first essay and use this input to recraft their essay. This **revised essay** is submitted via the Blackboard *Essay #2 dropbox* using filename *“student lastname essay #2”* is due **October 28**. (*10% of grade*)

**Format of Essay:** Your essay should be structured into four main parts.

*Introduction*: Outline background to the question and set out your framework for discussion (~ 100 words).

*Discussion*: Address a key issue from the readings you find important. The discussion should thoughtful, well-written, and persuasive, supported by evidence from the course readings and at least two external readings you gather. Be sure to clearly separate main discussion points (~ 300 words).

*Conclusion*: Sum up discussion and provide clear set of concluding points (~ 100 words).

*References*: These are not included in your word limit. You should use class readings and lectures, and cite these in the body of the essay and reference list, using the American Psychological Association citation guidelines mentioned above. You should also use at least one additional reference from the peer-reviewed literature, which you have found yourself. Please cite this/these and add to references at the end of the essay.

*3. Independent research project (40%):* Based on literature published in peer-reviewed journals, students develop a ~1500 word research paper exploring a topic related to their area of interest or major.

 The first step of this project is to submit a **Research paper proposal** to the Blackboard *research proposal dropbox* using filename *“student lastname research proposal”* on **September 16**. The proposal includes a one paragraph summary statement and a bibliography containing at least 5 sources from the published literature on a topic of the student’s own choosing. Students will get feedback from the faculty on the relevance and feasibility of their proposed project. (*5% of total grade*)

 Second students will create a **Research paper outline** submitted to the Blackboard *research outline dropbox* using filename *“student lastname research outline”* on **November 11**. The outline includes a proposed title, topic and thesis, short sentence summary of each paragraph, and updated bibliography. Students will again get feedback on their outline. (*5% of total grade*)

 Before we leave for Antarctica students will write a **Research paper** submitted to the Blackboard *research paper dropbox* using filename *“student lastname research paper”* on **November 25**. Students will get written feedback on their paper to help them refine and focus their ideas and arguments. (*10% of total grade*)

 After we return from the trip students will write a Revised research paper submitted to the Blackboard *revised research paper dropbox* using filename *“student lastname research paper”* on **January 15, 2019**. This final research paper will be informed not only by the comments of the faculty, but also by the student’s own experience on the continent. (*20% of total grade*)

 The approximately 1500 word final paper should use Times New Roman 12-point font, single-spaced, and one inch margins, and follow American Psychological Association (APA) citation guidelines (references and optional appendices not included in word limit). Grades will be penalized for incorrect filenames and for late submission (10% loss/day late).

APA citation guideline example (author. (date). article title. *journal title*, volume #: pages.) e.g:

 Spiller, J. and Kissek, L. (2016). Traveling With Students to Antarctica. *Journal of Off-the-Wall Academics*, 30:692-703.

*4. Field course bibliography (10%):* In advance preparation for the Antarctic excursion, each student identifies a preferred field module as part of the Midterm Assignment. After formal assignment by course instructors, each student completes the electronically reserved readings for that module (posted on Blackboard) and submits an annotated bibliography (one paragraph description of the topic, arguments, and evidence of each source) via the Blackboard *field bibliography dropbox* using filename “*student lastname field bibliography*” by **December 11**. Grades will be penalized for incorrect filenames and for late submission (10% loss/day late).

**Part B: Field Course (Winter Break- December 16-31, 2018)**

*1. Field module (45%)*

Students choose one of two field modules, depending on their area of interest. These in-depth group projects are based on field observations in Antarctica and Ushuaia. Module descriptions, readings, and support materials are posted in Blackboard. The field course readings, course instructors, and ship-board field staff are resources to help you complete the modules – but not to provide you with the answers.

 Final group module/research project paper submitted via the Blackboard *field module dropbox* using filename *“Student group name field module paper”* is due by **January 15, 2019**.

*2. Student field journal and course synthesis paper (45%)*

One of the objectives of this course is to enhance intellectual maturity and confidence through team work, cross-cultural interaction, and self-reflection. The field journal assignment includes directed reflection on the course as well as student experiences, observations, and interactions with the Antarctic environment and other ship passengers. Students submit their journal entries for review during the excursion to course instructors, and they use these entries to produce a post-trip 4-6 page course synthesis paper.

 Synthesis paper submitted via the Blackboard *synthesis paper dropbox* using filename *“student lastname synthesis paper”* is due by **January 15, 2019**.

*3. Retrospective Media Outreach project (10%)*

Produce a media story (e.g., newspaper article, blog, video, public presentation, poster) or an educational outreach activity (~500 words) that describes how you benefited from the course, raises awareness of this study abroad course, or educates others about Antarctica. It must include details on BOTH your academic and personal experience related to both the online and field course components. The final product should (a) sufficiently professional so you could submit it to your college newspaper or study abroad office and (b) explain how you plan on using your project for outreach.

 Retrospective Media Outreach project submitted via the Blackboard *media paper dropbox* using filename *“student lastname media paper”* is due by **January 15, 2019**.

**Readings, Lectures and Other Class Material**

**Online Course:** Fall semester lectures (60-75 minutes each) are coordinated by American Universities International Programs (AUIP) and delivered by experts from the University of Canterbury's Gateway Antarctica: Centre for Antarctic Studies and Research. Before the fall online course begins, students will receive by email a username and password with instructions for logging into the online lecture site. You will need a speaker or headset to listen to the weekly online lectures, but will not need a microphone. The course syllabus, assignments, and weekly readings (listed in the schedule below) are posted in Blackboard, as are the dropboxes for all assignments.

**Field Course:**  **PLEASE NOTE**- before departing for the Antarctic excursion, students need to assemble and bring (in print or electronic form) all readings and materials posted on Blackboard that are associated with the field module assignment and field journal assignment. Students can (a) print the documents and compile them in a notebook or (b) organize them in digital form on a notebook or laptop to bring on the field course. **You must have these documents in Antarctica**!

***Recommended***: Antarctic wildlife field guides are very helpful for students conducting the seabird field project. Dr. Spiller will have one of each of the following field guides that students can borrow, but you may want to bring your own:

 Carey, P. and Franklin, C. (2009). *Antarctica Cruising Guide*. Wellington, New Zealand: Awa Press.

 Shirihai, H. (2008). *The Complete Guide to Antarctic Wildlife*. Princeton, NJ: Princeton University Press.

**Grade assessment:** Final grades for all credits will be assessed together and as follows:

 B+ 87.0 - 89.99 % C+ 77.0 - 79.99 %

 A 93.0 - 100 % B 83.0 - 86.99 % C 73.0 - 76.99 %

 A- 90.0 - 92.99 % B- 80.0 - 82.99 % C- 70.0 - 72.99 %

**Fall Course Schedule**

**Week 1 –** Wednesday August 29, 2018 (6 pm ET)

**Presenter**: Jamie Spiller (SUNY Brockport), Course Introduction

**Reading:**

 *Reflections at the End of the Earth*. 9-51.

**Week 2 –** Wednesday September 5, 2018 (6 pm ET)

**Presenter**: Gabriela Roldan (Gateway Antarctica), Ushuaia and the Antarctic Peninsula

**Reading:** (Read one of the following):

 Bertram, E., Muir, S., & Stonehouse, B. (2007). Gateway ports in the development of Antarctic tourism. *Prospects for Polar Tourism*, 123-146.

 Elzinga, A. (2013). Punta Arenas and Ushuaia: early explorers and the politics of memory in constructing Antarctic gateway cities. *The Polar Journal*, *3*(1), 227-256.

**Week 3 –** Wednesday September 12, 2018 (6 pm ET)

**Presenter**: Gabriela Roldan, Ushuaia: Tourism destination or frontier town? The impacts of tourism at the end of the world

**ASSIGNMENT due:** Research Paper Proposal by Sunday, September 16 at 11:59 pm

**Week 4 –** Wednesday September 19, 2018 (6 pm ET)

**Presenter**: Peter Carey (SubAntarctic Foundation), History of Antarctic Exploration

Reading:

 Martin, S. (1996). *A History of Antarctica*. Sydney: State Library of New South Wales Press. 17-31.

 Pyne, S. J. (1986). *The Ice: A Journey to Antarctica*. Iowa City: University of Iowa Press. 65-115.

**Week 5 –** Wednesday September 26, 2018 (6 pm ET)

**Presenter**: Neil Gilbert, Antarctic Territorial Claims and Intro to Antarctic Treaty System

Reading:

Dodds, K.J. (2010). Amongst the palm trees: ruminations on the 1959 Antarctic Treaty. *Polar Record*, 46(1), 1-2.

Baker, F.W.G. (2010). Some reflections on the Antarctic Treaty. *Polar Record*, 46(1), 2-4.

Beck, P.J. (2010). Fifty years on: putting the Antarctic Treaty into the history books. *Polar Record*, 46(1), 4-7.

Berkman, P.A. (2010). Common interests in the international space of Antarctica. *Polar Record*, 46(1), 7-9.

Bulkeley, R. (2010). The political origins of the Antarctic Treaty. *Polar Record*, 46(1), 9-11.

Haward, M. (2010). Australia and the Antarctic Treaty. *Polar Record*, 46(1), 11-14.

Joyner, C.C. (2010). The Antarctic Treaty and the law of the sea: fifty years on. *Polar Record*, 46 (1), 14-17.

Rothwell, D.R. (2010). Sovereignty and the Antarctic Treaty. *Polar Record*, 46(1), 17-20.

**ASSIGNMENT due:** First Essay due by Sunday September 30 at 11:59 pm

**Week 6 –** Wednesday October 3, 2018 (6 pm ET)

**Presenter**: Peter Carey, Antarctic Birds

**Reading:** (review list of birds at following website)

 https://en.wikipedia.org/wiki/List\_of\_birds\_of\_Antarctica

**Week 7 –** Wednesday October 10, 2018 (6 pm ET)

**Presenter**: Peter Carey, Antarctic Marine Ecosystems

**Reading:**

 Barnes, D. and Clarke, A. (2011). Antarctic marine biology. *Current Biology*, 12(12), 451-457.

**Week 8 –** Wednesday October 17, 2018 (6 pm ET)

**Presenter**: Oliver Marsh (Gateway Antarctica), Glaciology and Ice

**Reading:**

 Paolo, F. et al. (2015). Volume loss from Antarctic ice shelves is accelerating. *Science*, 348(6232), 327-330.

**Week 9 –** Wednesday October 24, 2018 (6 pm ET)

**Presenter**: Paul Broady (University of Canterbury), Terrestrial Ecosystems in Antarctica

**Reading:**

 Convey, P. (2010). Terrestrial biodiversity in Antarctica- Recent advances and future challenges. *Polar Science*, 4, 135-147.

**ASSIGNMENT due:** Revised Essay due by Sunday October 28 at 11:59 pm

**Week 10 –** Wednesday October 31, 2018 (6 pm ET)

**Presenter**: Bryan Storey (Gateway Antarctica), Antarctic Geology

**Reading:**

Four short, non-peer reviewed entries in *The Antarctic Sun* (http://antarcticsun.usap.gov/), an online newspaper funded by the U.S. National Science Foundation Office of Polar Programs to raise awareness of publicly-funded Antarctic research and other related happenings.

 Continental connection: Research paper suggests East Antarctica and North America once linked: http://antarcticsun.usap.gov/science/contenthandler.cfm?id=2497

 Tectonic evolution: Geologists study ancient Antarctic landscape as possible influence on climate: http://antarcticsun.usap.gov/science/contenthandler.cfm?id=2415

 Turning over an old leaf: Paleobotanists reconstruct Triassic with fossilized plant material: http://antarcticsun.usap.gov/science/contenthandler.cfm?id=2412

 Warmer continent: Newly published study finds Antarctica a hotter place 14 million years ago: http://antarcticsun.usap.gov/science/contenthandler.cfm?id=1510

**ASSIGNMENT due:** Midterm Assignment by Sunday November 4 at 11:59 pm

**Week 11 –** Wednesday November 7, 2018 (6 pm ET)

**Presenter**: Gary Steel (Lincoln University), Antarctic Psychology

Reading:

 Norris, K. et al. (2010). Future directions in Antarctic psychology research. *Antarctic Science*, 22(4), 335-342.

**ASSIGNMENT due:** Research Paper Outline by Sunday November 11 at 11:59 pm

**Week 12 –** Wednesday November 14, 2018 (6 pm ET)

**Presenter**: Neil Gilbert, Environmental Management, Environmental Protocol, and the CEP

**Reading:**

 Chown, S. et al (2012). Challenges to the Future Conservation of the Antarctic. *Science*, 337, 158-59.

 Tin, T. et al (2009). Impacts of local human activities on the Antarctic environment. *Antarctic Science*, 21(1), 3-33.

**Week 13 –** NO CLASS – THANKSGIVING BREAK

**ASSIGNMENT due:** Research Paper by Sunday November 25 at 11:59 pm

**Week 14 –** Wednesday November 28, 2018 (6 pm ET)

**Presenter**: Bryan Storey, Antarctic Research: Exploring the BIG questions

**Reading:**

 Bentley, M. (2015). Recent Climate Change: Causes and Impacts of Climate Change in Antarctica. *Exploring the Last Continent*. Switzerland: Springer Int. Pub., 505-520

 International Association Antarctica Tour Operators (IAATO). *Climate Change in Antarctica: Understanding the Facts*.

**ASSIGNMENT due:** Final Essay Exam by Sunday December 4 at 11:59 pm

**Week 15 –** Wednesday December 5, 2018 (6 pm ET)

**Presenter**: Jamie Spiller and Larry Kissek, Antarctic Field Excursion Orientation

**ASSIGNMENT due:** Field Course Annotated Biblio. by Sunday December 9 at 11:59 pm

**Final Research Paper due by January 15, 2019**

**Field Course Assignments due by January 15, 2019**

Group Field Study Report

Course Synthesis Paper

Retrospective Media Outreach Project