

2-Trial

Revised 10/14/14

FORMAT 1

Submit original with signatures+ 1 copy + electronic copy to Faculty Senate (Box 7500). See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/ for a complete description of the rules governing curriculum & course changes.

TRIAL COURSE OR NEW COURSE PROPOSAL

SUBMITTED BY:

Table with 4 columns: Department (GPMSL), College/School (SFOS), Prepared by (Mark Johnson), Phone (474-6933), Email Contact (majohnson@alaska.edu), Faculty Contact (Mark Johnson)

1. ACTION DESIRED

(CHECK ONE):

Trial Course

x

New Course

2. COURSE IDENTIFICATION:

Dept

MSL

Course #

294

No. of Credits

3

Justify upper/lower division status & number of credits:

This course will be offered at the 200 level because it requires minimal prerequisites and will consist of three lectures per week with outside reading.

3. PROPOSED COURSE TITLE:

History of Ocean Exploration

4. To be CROSSED LISTED?

YES/NO

NO

If yes, Dept:

Course #

NOTE Cross-listing requires approval of both departments and deans involved. Add lines at end of form for additional required signatures.

5. To be STACKED?

YES/NO

NO

If yes, Dept.

Course #

How will the two course levels differ from each other? How will each be taught at the appropriate level?

Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi—undergraduate and graduate versions—will help emphasize the different qualities of what are supposed to be two different courses.

6. FREQUENCY OF OFFERING:

Spring of odd-numbered years

Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years)— or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (AY2013-14

if approved by 3/1/2013; otherwise AY2014-15)

Spring 2015

8. COURSE FORMAT:

NOTE Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the Core Review Committee.

COURSE FORMAT:

(check all that apply)

1

2

3

4

5

x

6 weeks to full semester

OTHER FORMAT (specify)

Mode of delivery (specify lecture, field trips, labs, etc)

lecture

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/guidelines-for-computing-/ for more information on number of credits.

OTHER HOURS (specify type)

10. **COMPLETE CATALOG DESCRIPTION** including dept., number, title, credits, credit distribution, cross-listings and/or stacking (50 words or less if possible):

Example of a complete description:

FISH F487 W, O Fisheries Management  
3 Credits Offered Spring

Theory and practice of fisheries management, with an emphasis on strategies utilized for the management of freshwater and marine fisheries. *Prerequisites:* COMM F131X or COMM F141X; ENGL F111X; ENGL F211X or ENGL F213X; ENGL F414; FISH F425; or permission of instructor. Cross-listed with NRM F487. (3+0)

MSL F294 W, History of Ocean Exploration

3 credits Offered Spring

The class presents early human migrations across the oceans, discusses the explorers who mapped the world such as Cook, Magellan, and Nansen, and highlights the scientific advances that allowed for the discovery of the new world. (Prerequisite ENGL F111x) (3+0)

11. **COURSE CLASSIFICATIONS:** Undergraduate courses only. Consult with CLA Curriculum Council to apply Sor H classification appropriately; otherwise leave fields blank.

H = Humanities  S = Social Sciences

Will this course be used to fulfill a requirement for the baccalaureate core? If YES, attach form.

YES:  NO:

IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive, Format 6  W = Writing Intensive, Format 7  X = Baccalaureate Core

11.A Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.

YES  NO

12. **COURSE REPEATABILITY:**

Is this course repeatable for credit? YES  NO

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).

How many times may the course be repeated for credit?

TIMES

If the course can be repeated for credit, what is the maximum number of credit hours that may be earned for this course?

CREDITS

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?

CREDITS

13. **GRADING SYSTEM:** Specify only one. Note: Changing the grading system for a course later on constitutes a Major Course Change - Format 2 form.

LETTER:  PASS/FAIL:

**RESTRICTIONS ON ENROLLMENT (if any)**

14. **PREREQUISITES** ENGL 111

These will be required before the student is allowed to enroll in the course.

15. **SPECIAL RESTRICTIONS, CONDITIONS** none

16. **PROPOSED COURSE FEES** none

Has a memo been submitted through your dean to the Provost for fee approval?

Yes/No

**17. PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously?  
Yes/No

No

If yes, give semester, year, course #, etc.:

**18. ESTIMATED IMPACT**

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

Classroom will be needed, possibly with ability to distance delivery. Course will be part of the instructor's approved workload.

**19. LIBRARY COLLECTIONS**

Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No

Yes

Corresponded with Karen Jensen on July 15-16, 2014 and also Stephen Hunt (Sciences Librarian) in June 24-25, 2014 regarding library materials. Both have suggested specific books, use the rare maps from Library Archives, and provided reference lists.

**20. IMPACTS ON PROGRAMS/DEPTS**

What programs/departments will be affected by this proposed action?

Include information on the Programs/Departments contacted (e.g., email, memo)

This class will be in support of the GPMSL Marine Science minor because it will be one of the election options.

**21. POSITIVE AND NEGATIVE IMPACTS**

Please specify **positive and negative** impacts on other courses, programs and departments resulting from the proposed action.

Positive impacts include generating interest in marine science. Negative impacts are unlikely as this course is not offered elsewhere at UAF.

**JUSTIFICATION FOR ACTION REQUESTED**

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

This trial course will provide useful and specific information on how and why the oceans were and are used to support the needs of mankind. The oceans provide food and fuel to humans, and this course presents the early history of how the ocean was explored, how science advanced ocean exploration, and the key people who mapped the globe. Students will 1) be able to describe the ocean voyages that mapped the known world, 2) have an understanding of the how the Arctic was discovered, explored and mapped, 3) be able to describe how scientific advances were applied to solve practical problems, 4) be able to describe the level of scientific knowledge that existed at specific historical times, 5) improve their ability to write clearly, and 6) further develop their library research skills.

**APPROVALS: Add additional signature lines as needed.**

Ana M Aguilar-Tales Date 9/3/14  
Signature, Chair, Program/Department of: \_\_\_\_\_

[Signature] Date 9/4/14  
Signature, Chair, College/School Curriculum Council for: SPOS

[Signature] Date 9/4/14  
Signature, Dean, College/School of: SPOS

**Offerings above the level of approved programs must be approved in advance by the Provost.**

\_\_\_\_\_  
Signature of Provost (if above level of approved programs) Date \_\_\_\_\_

**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE**

\_\_\_\_\_  
Signature, Chair  
Faculty Senate Review Committee: \_\_\_Curriculum Review \_\_\_GAAC  
\_\_\_Core Review \_\_\_SADAC

**ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)**

\_\_\_\_\_  
Signature, Chair, Program/Department of: \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
Signature, Chair, College/School Curriculum Council for: \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
Signature, Dean, College/School of: \_\_\_\_\_ Date \_\_\_\_\_

**ATTACH COMPLETE SYLLABUS (as part of this application).** This list is online at:

<http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/>

The Faculty Senate curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course (or changes to it) may be denied.

### **SYLLABUS CHECKLIST FOR ALL UAF COURSES**

During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

#### **1. Course information:**

Title,  number,  credits,  prerequisites,  location,  meeting time  
(make sure that contact hours are in line with credits).

#### **2. Instructor (and if applicable, Teaching Assistant) information:**

Name,  office location,  office hours,  telephone,  email address.

#### **3. Course readings/materials:**

Course textbook title,  author,  edition/publisher.  
 Supplementary readings (indicate whether  required or  recommended) and  
 any supplies required.

#### **4. Course description:**

Content of the course and how it fits into the broader curriculum;  
 Expected proficiencies required to undertake the course, if applicable.  
 Inclusion of catalog description is *strongly* recommended, and  
 Description in syllabus must be consistent with catalog course description.

#### **5. Course Goals (general), and (see #6)**

#### **6. Student Learning Outcomes (more specific)**

#### **7. Instructional methods:**

Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

#### **8. Course calendar:**

A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

#### **9. Course policies:**

Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

#### **10. Evaluation:**

Specify how students will be evaluated,  what factors will be included,  their relative value, and  how they will be tabulated into grades (on a curve, absolute scores, etc.)  Publicize UAF regulations with regard to the grades of "C" and below as applicable to this course. (Not required in the syllabus, but is a convenient way to publicize this.) Link to PDF summary of grading policy for "C":

[http://www.uaf.edu/files/uafgov/Info-to-Publicize-C\\_Grading-Policy-UPDATED-May-2013.pdf](http://www.uaf.edu/files/uafgov/Info-to-Publicize-C_Grading-Policy-UPDATED-May-2013.pdf)

#### **11. Support Services:**

Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

**12. Disabilities Services:** Note that the phone# and location have been **updated**. <http://www.uaf.edu/disability/> The Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials.

State that you will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655) to provide reasonable accommodation to students with disabilities.

5/21/2013

**History of Ocean Exploration**

Course Syllabus MSL 294

**Course Information:****Title:** History of Ocean Exploration, MSL 294, 3 credits**Prerequisites:** English 111. **Location:** TBD. **Time:** TBD**Instructor:** Mark Johnson, Professor of Oceanography, Institute of Marine Science, SFOS**Contact:** 474.6933, majohnson@alaska.edu**Location:** O'Neill 111. **Office hours:** TBD**Course Reading Material:** The following books are available at Rasmusson Library, through Blackboard, and /or as shared GoogleDocs.

- The Conquest of the Ocean The Illustrated History of Seafaring. 2013. Brian Lavery. DK Publishing, New York. Rasmusson Library. 910.45 LAV
- A History of Polar Exploration. 1974. David Mountfield, Firefly Books, The Hamlyn Publishing Group Limited. Middlesex. ISBN: 0-8037-3738-6
- Atlas of Human Migration. 2007. King, Russell, A Firefly Book. ISBN-13 978-55407-287-3. Rasmusson Library Level 5, Atlas Collection, GN370.A85 2007
- Arctic Exploration & International Relations 1900-1932. 1992. Nancy Fogelson. University of Alaska Press. ISBN 0-912006-61-7
- Historical Atlas of the North Pacific Ocean Maps of Discovery and Scientific Exploration 1500-2000. 2001. Derek Hayes. North Pacific Marine Science Organization, Douglas & McIntyre Ltd. British Columbia. ISBN 1-55054-865-4
- Oceanic Migration. 2010. Charles Pearce. An online history of the prehistoric peopling of the Pacific. See reference desk at Rasmusson Library
- Peopling of the Americas, Currents, Canoes, and DNA. 2011. Barbara Bennett Peterson. Nova Science Publishers. Rasmusson Library Level 6, E103.P47
- The Pacific Navigators. 1980. Oliver E. Allen and the Editors of Time-Life Books. ISBN 0-8094-2685-4, Rasmusson Library.

**Recommended Reading Material:**

- Adventures in the Wilderness The American Journals of Louis Antoine de Bougainville 1756-1760. 1957. Edited by Edward P. Hamilton, University of Oklahoma Press. Rasmusson Library, E 199 B72
- A Voyage Around the World, Volumes I and II. 2000. George Forster, edited by Nicholas Thomas and Oliver Berghof. University of Hawai'i Press. Rasmusson Library (about Cook voyages)
- Beyond the Blue Horizon How the Earliest Mariners Unlocked the Secrets of the Oceans. 2012, Brian Fagan. Bloomsbury Press. Rasmusson Library. GN 799 N3 F33 2012.
- Captain Cook A Legacy Under Fire. 2002. Vanessa Collingridge. The Lyons Press. Rasmusson Library. G 246 C7 C59 2002.
- Captain Cook Voyages of Discovery. 1993. Compiled by John Barrow from the Authorized 18th Century Admiralty Editions and Documents., Academy Chicago Publishers. ISBN 0-89733-316-0. Rasmusson Library ALASKA G 420 62 C66 1993
- Early Man and the Ocean A Search for the Beginnings of Navigation and Seaborne Civilization. 1979. Thor Heyerdahl. Doubleday & Company, Inc. New York. ISBN: 0-385-12710-3. Rasmusson Library. GN 386 H49 1979
- The Farthest North. 1897. Fridjof Nansen. Volumes I and II. New York.
- The Heart of the Antarctic Being the Story of the British Antarctic Expedition 1907-1909 By Sir Ernest Shackleton, C.V.O. edited by William Heinemann. London. 1909.
- Longitude. 1995. Dava Sobel. HarperCollins Publishers.

The Journals of Captain James Cook I The Voyage of the Endeavour 1768-1771. 1955. Edited by James Beaglehole. Cambridge, Published for the Hakluyt Society at the University Press, 1968. Rasmuson Library.

The Pacific Journal of Louis de Bougainville 1767-1768. 2002. Translated and edited by John Dunmore. The Hakluyt Society, London. ISBN 0 904180 78 6

The Opening of the Canadian North 1870-1914. 1971. Morris Zaslow. The Canadian Centenary Series, McClelland and Stewart Publishers. SIBN 0-7710-9080-3

Shackleton in the Antarctic. 1910. William Heinemann Publishing, London.

Storms and Dreams The Life of Louis de Bougainville. 2007. John Dunmore. University of Alaska Press. ISBN 13: 978-1-60223-000-2. Rasmuson Library G 256 B6 D85 2007

**Course description:**

MSL F294 W, History of Ocean Exploration

3 credits Offered Spring of Odd Numbered Years

The class presents early human migrations across the oceans, and discusses the explorers who mapped the world such as Cook, Magellan, and Nansen. The scientific advances that allowed for these new discoveries are presented. (Prerequisite ENGL F111x or permission of instructor) (3+0)

**Course Goals:** Students are expected to develop an understanding of how humans migrated across the oceans, learn about the challenges of mapping landmasses, and learn of the great ocean voyages including Cook, Amundsen, and Nansen and their scientific discoveries.

**Student Learning Outcomes:** Students will learn a unique maritime history, broaden their scientific understanding and the linkages between advances in science and how they translate to societal improvement, and develop their research and writing skills. Students will 1) be able to describe the ocean voyages that mapped the known world, 2) have an understanding of the how the Arctic was discovered, explored and mapped, 3) be able to describe how scientific advances were applied to the practical problems, 4) be able to describe the level of scientific knowledge that existed at specific historical times, 5) improve their ability to write clearly, and 6) further develop their library research skills.

**Instructional methods:** The Instructor will lecture, provide overviews of the major ocean voyages, and assign readings. Supplemental readings will be recommended in class.

**Course Calendar:**

Weeks 1-2: Read: Atlas of Human Migration, pages 1-62; The Pacific Navigators, pages 99-105; Conquest of the Oceans, pages 1-61; Supplemental: Peopling of the Americas, Currents, Canoes, and DNA pages 1-66.

1. Human origins, the dawn of Homo sapiens, and human migrations.
  1. Migrations by sea
    1. Spreading across the Mediterranean Sea.
    2. View maps of Aegean Sea, Sea of Crete, Ionian Sea, Black Sea
    3. Migrating across ocean
      1. Out of Asia and across the Pacific via Beringia
      2. The Polynesian voyagers who spread across the Pacific

Weeks 3-4: Read: Atlas of Human Migration, pages 63-105; Conquest of the Oceans, pages 62-115.

2. Early Explorers

1. Denmark Strait crossed by two Icelanders who spent winter on Greenland (980). Eric the Red then crosses to Cape Farewell, then to Godthaab, Greenland.
2. Vasco de Gama voyages to India and maps coastline of Africa, East Indies and New Guinea's north coast (1497-98)
3. Columbus arriving in the New World on October 12, 1492, Watling Island or San Salvador, Bahamas.
4. Amerigo Vespucci to the New Worlds reaches South America (1502)

Weeks 5-6: Read: Historical Atlas of the Northeast Pacific Ocean, pages 127-133; The Pacific Navigators, pages 70-85 ;

3. The Circumnavigators
  1. Magellan, 1519-152.
  2. Francis Drake, 1577-1580.
  3. Louis Antoine de Bougainville, first French explorer to circumnavigate, 1766-1769. Supplemental reading: The Pacific Journal of Louis de Bougainville 1767-1768, edited by John Dunmore, see the Introduction, and Appendix I, The Muster Roll;
  4. James Cook aboard Endeavor 1768-1771. Supplemental reading: The Journals of Captain James Cook on his Voyages of Discovery The Voyage of the Endeavor 1768-1771. 1955. Edited by J.C.Beaglehole.
  5. First Russian Circumnavigation in 1803.

#### ESSAY I DUE END OF WEEK 6

Weeks 7-8: Read: The Pacific Navigators 75-133.

4. The Discoverers: Charting the South Pacific and the quest for Terra Australis Incognita
  1. Guadacanal, The Marquesas Islands, Santa Cruz (Solomons) by Sarmiento and Mendana 1567-
  2. Taomaki, Solomons, New Hebrides by Quiros.
  3. Torres Strait - the long lost report of Luis Vaez de Torres' passage through the Strait in 1606 is found by Alexander Dalrymple (in the 1760s?)
  4. Strait of Le Maire 1615. William Schouten and Jacob Le Maire rounded South America not via Strait of Magellan (which was controlled by a Dutch trading company) but south past Tierra del Fuego.
  5. Tasmania, 1642 by Abel Tasman
  6. Tahiti by the French Mariner Louis de Bougainville who said "I thought I had been transported to a Garden of Eden" upon reaching Tahiti in 1768. Supplemental reading: Adventures in the Wilderness The American Journals of Louis Antoine de Bougainville 1756-1760. 1957. Edited by Edward P. Hamilton, University of Oklahoma Press. Rasmuson Library.
  7. Bougainville Island, NE of Australia, Louisiade Archipelago, Papua New Guinea, Choiseul Islands, and sailed past Australia's Great Barrier Reef
  8. Newfoundland coast charted by James Cook 1763-1767

Week 9 – Begin reading: Longitude by Dava Sobel

5. The Discoveries and Inventions
  1. Astrolabe, cross-staff sightings, compass
  2. The "lunars" required making accurate angle measurements between moon and certain stars, then using "voluminous" tables, one could calculate the difference from Paris (or Greenwich)
  3. Harrison's Clock goes to sea



4. Switching from sails to steam, late 1700s, early 1800s. By 1880s could produce 10K HP. Steam remained dominant until early 20th century with advances in electric motors and the internal combustion engine.
5. Sonar developed in 1914
6. GPS, GoogleEarth and beyond.

Weeks 10-11: Read: Captain Cook Voyages of Discovery, compiled by John Barrow, pages 243-505;

6. Charting the North Pacific, Alaska and the Bering Sea

### ESSAY II DUE END OF WEEK 11

Weeks: 12-14: Read Arctic Exploration & International Relations 1900-1932. Fogelson, pages 1-110; Historical Atlas of the Northeast Pacific Ocean, pages 127-135, 140-141.

7. The Polar Explorers. The Arctic and Antarctica
  1. Pytheas of Massalia. The first to travel in far northern Europe and report about it, probably around 320s B.C.E.
  2. James Cook's voyage (1776) via Hawaii, St. Paul, the Chukchi Sea, Unalaska, and Nootka Sound. Supplemental reading: Voyage Around the World Volume 1. Forester, pages 17-226.
  3. The Arctic in the 19th Century -
    1. Sir John Ross
    2. The Hudson's Bay Company
    3. Sir John Franklin. See History of Polar Exploration, pages 95-107.
    4. Otto Kotzebue (1803-1806) Mapped of Bering Strait and Kotzebue Sound
    5. Fedor Lutke's Scientific Voyage around the Pacific 1827-1828.
    6. Mikhail Tebenkov's Atlas "Northwest Coasts of America from Bering Strait to Cape Corrientes and the Aleutian Islands" published in 1852. Maps of St. Lawrence Island, San Francisco Bay, Columbia River,
    7. Raold Amundsen to the Northwest Passage
    8. Fridjof Nansen. See History of Polar Exploration, pages 117-132.

Week 15: Read selected passages in The Farthest North by Fridjof Nansen.

8. Arctic Ice Drift in the Polar Regions: Fridjof Nansen in the Arctic ocean
9. Review

### FINAL ESSAY DUE BY EXAM DAY

**Course Policies:** Make-up essays are possible when arranged in advance. Students who are habitually tardy will have grades lowered. Students who plagiarize will fail the assignment and the class.

**Evaluation:** Each student will write three essays over the semester. Essays will present a case study that documents the impact of scientific invention and/or the scientific discovery on 1) human survival, expansion, and migration, or 2) ocean charting and maritime exploration, or 3) the development of modern ocean sciences. Essays will be provided to the instructor as a shared GoogleDoc or sent via email to the Instructor as a PDF attachment. Each essay must be at least three thousand words in length excluding references. Essay I (100 points) is due end of Week 6, Essay II (100 points) due end of Week 11, and the Final Essay (200 points) is due by the date of the final exam. Proper grammar and correct spelling are expected.

Essays will be graded for relevance to maritime history and the evolution of the ocean sciences. Essays will describe and document a specific connection between a scientific advancement and provide evidence of its impact on human migration, global expansion, and/or mapping the then-known world. Essays will describe how a scientific discovery or theory helped shape modern ocean sciences. Essays with acceptable grammar and spelling will be graded on writing clarity (30%) soundness of logical argument (30%), and the ability to relate scientific achievement to human history (30%), and on general interest (10%).

**Support Services:** The instructor is available to students during and after class, during office hours, and by appointment.

**Academics and Regulations, Students' Rights and Responsibilities:** See [http://www.uaf.edu/catalog/catalog\\_10-11/academics/regs3.html#Student\\_Rights](http://www.uaf.edu/catalog/catalog_10-11/academics/regs3.html#Student_Rights)

**Disabilities Services:** See [http://www.uaf.edu/catalog/catalog\\_10-11/services/serv11.html](http://www.uaf.edu/catalog/catalog_10-11/services/serv11.html)

**Support Services:** The Writing Center (<http://www.uaf.edu/english/writing-center/>) offers tutorial and fax-tutorial assistance with grammar, composition, and style. Students connected to the UAF network (Ethernet or wireless on-campus or through VPN off-campus) have access to UAF Library catalogs, electronic journal holdings, and interlibrary loan resources. Miscellaneous support services (e.g., tutorial services, instruction in mathematics skills, academic advising, mentoring and personal support, cultural and social engagement, use of laptop computers, labs, and other technology resources, and direct financial assistance to qualified low-income participants) are available through UAF Student Support services (<http://www.uaf.edu/sss/>).