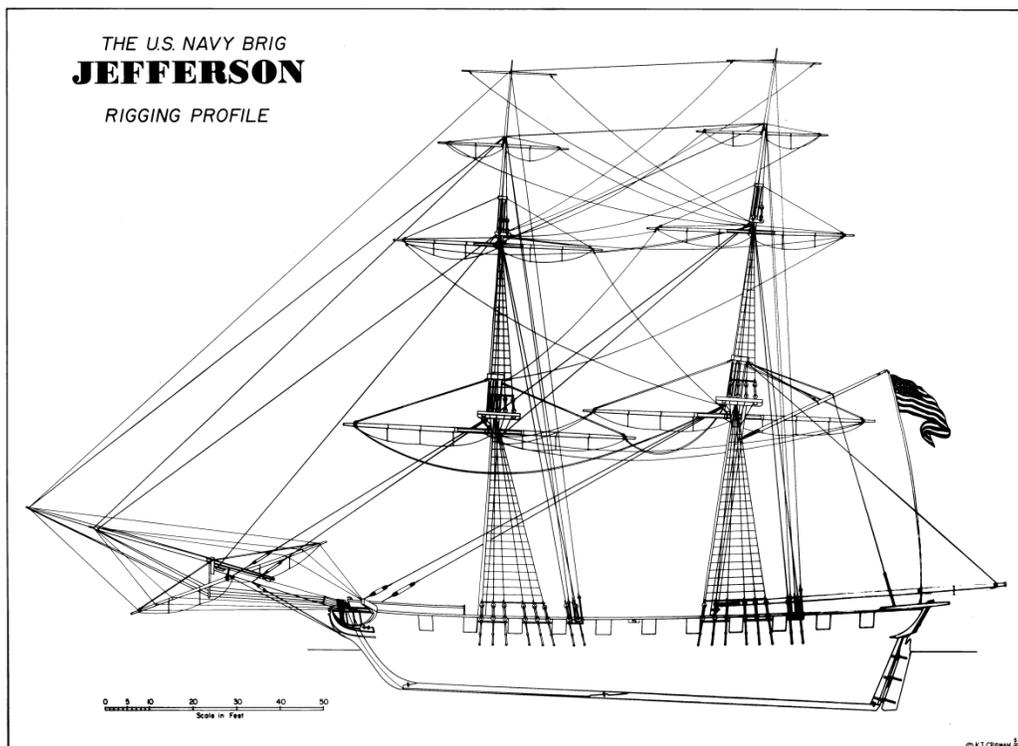


# OUTFITTING and SAILING the WOODEN SHIP

## 1400-1900

Anthropology 610

## Syllabus and Schedule

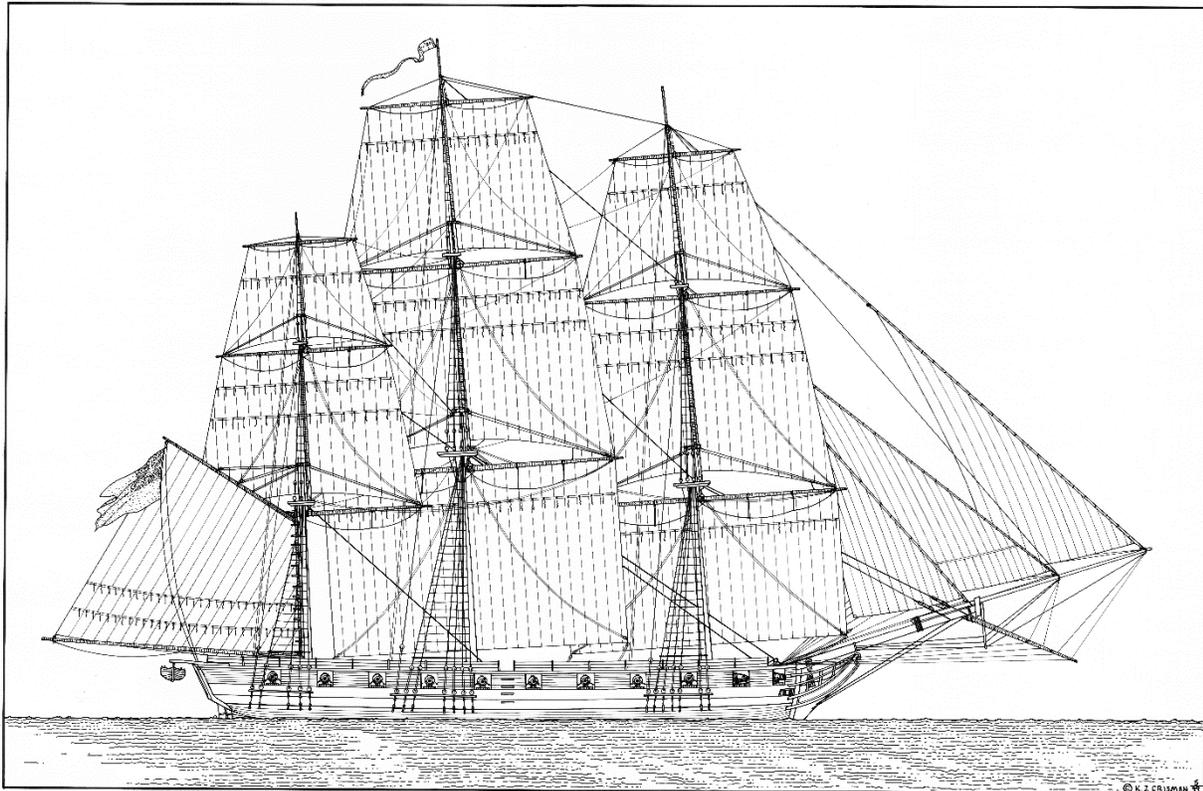


# Fall 2020

*When you are at home in the day time, or in the evening, you may, upon your paper with your black-lead pencil, raise a hundred models of supposition, which will bring your hand into the way of raising a model complete and handsome. And, likewise, you will by that come to be expert and perfect in giving allowance for the sweep of the mast heads, and blocks, and dead eyes and the like, that when you come to raise a model by a true proportion, you may go ahead without fear, for it will come to you with ease enough if you but take any pains at all to practice it.*

*Do not do as a great many do, buy books and be a little fond of them, and afterwards lay them aside, and never practice by them until you have occasion to make use of them, and then run head-long upon the work, so that there is one gross error upon another, and then impute the folly upon the book or the author, when the fault lies wholly in the want of practice. For, you can not be too perfect, because **the rigging of a ship is a thing that cannot be done in secret, and you have many eyes upon you, and if you do not complete your work, it makes such a blot in your scutcheon that it will scarce ware out in seven years time.***

Thomas Miller, *The Modellist*, 1667



Fall 2020

# Anthropology 610

## OUTFITTING and SAILING the WOODEN SHIP

### 1400-1900

Instructor: Dr. Kevin Crisman

Course Hours: Tuesdays, 9-12

Office Hours: Tuesdays 2-5 p.m. Zoom ID **819 899 9514**

or by appointment

Office: Anthropology 131B (New World Lab)

kcrisman@tamu.edu

☎ 979-492-0751 Cell

This course will draw upon a rich array of archaeological and historical sources to examine the outfitting and sailing of wooden ships between 1400 and 1900, a period popularly known as “The Age of Sail.” Emphasis will be placed upon two areas of particular interest to the nautical archaeologist: 1) the use, chronological development and nomenclature of seafaring technology; 2) the operational aspects of seafaring (the tools, techniques, and daily routines of seafarers during the Age of Sail).

#### Course Schedule:

#### Week 1. Introduction to Course and Sources for Research. Propelling the Ship, Part I.

1. Review of the syllabus and course requirements.
2. Discussion of project research, drafting, writing and editing.

Lecture topic: Sources on the outfitting of ships and seafaring life, 1400-1900.

#### Week 2. Propelling the Ship, Part I (continued).

Lecture topics: **Sailing Rigs, Masts and Spars.**

Reading for Weeks 2 and 3:

John Harland. *Seamanship in the Age of Sail* (London: Conway Maritime Press, 1984; reprinted 1992 by the Naval Institute Press, Annapolis), Read Chapters 2 and 3 (pp. 19-39).

- Reading to complete by Week 8 (there'll be a question or two on the first exam).

Choose **one** of the following:

Captain Frank Hubert Shaw, *White Sails and Spindrift* (New York: The Odyssey Press, 1947) **or** Captain Daniel O. Killman, *Forty Years Master* (College Station, TX: Texas A&M University Press, 2016). Copies can be signed out from the NAP Library.

#### Week 3. Propelling the Ship, Part II.

Lecture topics: **Spars (cont'd), Standing and Running Rigging.**

Reading:

Darcy Lever. *The Young Sea Officer's Sheet Anchor* (Leeds: Gill, 1808; many editions followed). Familiarize yourself with material covered on pp. 13-16, 50-53, 56 (esp. the blocks and ropes shown on Figs. 317 & 318), 57, 60, 63, 66.

**Week 4. Propelling the Ship, Part III.**

Lecture topics: **Standing and Running Rigging (cont'd), Sails.**

Reading:

David Steel. *Steel's Elements of Mastmaking, Sailmaking and Rigging* (From the 1794 Edition) (Largo, FL: Edward Sweetman Co., 1982). Pages 58-74 provide a late-18th century overview of the sail making materials, tools, and techniques.

John E. Horsley. *Tools of the Maritime Trades* (Camden, ME: International Marine Publishing Company, 1978). Pages 98-232 describe and illustrate the sail making, rope making, and block, spar, and pump making.

**Week 5. Tacking, Wearing, and Other Sailing Maneuvers.**

Lecture topic: **Lessons in Square Rigged Ship Sailing.**

Reading:

Harland. *Seamanship*. Read Chapter 22 (pp. 294-312).

Brady. *The Kedge-Anchor*. To get an idea of sea hazards and how to handle them, look over Parts V, VI, and VII (pp.171-228).

**Week 6. High and Low Pressure: Marine Steam Engines and the Archaeologist**

Lecture topics: **The Steam Engine Design, Construction, and Reconstruction.**

Reading:

Cedric Ridgely-Nevitt. *American Steamships on the Atlantic* (Newark: University of Delaware Press, 1981). Read Chapter 1 (pp. 13-51).

Adam I. Kane. *The Western River Steamboat* (College Station: Texas A&M University Press, 2004). Skim chapters 3 and 4, but focus on pp. 67-83.

Kevin Crisman and Glenn Grieco. "The Western River Steamboat *Heroine*, 1832-1838: Oklahoma, U.S.A.: propulsion machinery, *International Journal of Nautical Archaeology*, Vol. 44, No. 1, 2014.

Robin Sheret. *Smoke Ash and Steam* (Victoria, B.C.: Western Isles Cruise & Dive Company, Ltd., 2<sup>nd</sup> edition 2005). Read chapter 1, skim chapters 2-5.

**Week 7. The Equipment of a Ship, Part I.**

Lecture topics: **Steering; Centerboards, and Ground Tackle.**

Reading:

Brian Lavery. *The Arming and Fitting of English Ships of War, 1600-1815* (London: Conway Maritime Press, 1987). Read Parts I and II (pp. 9-50).

William Brady. *The Kedge-Anchor or Young Sailors' Assistant* (New York: Published by the Author, 1849; Dover Reprint, 2002). Handling cables and anchors discussed pp. 104-113, 149-152, 155, 163, 191-197, 201, 224, 247, 290-291.

Henry N. Barkhausen. *Focusing on the Centerboard* (Manitowoc, WI: Manitowoc Maritime Museum, 1990). A useful source on the centerboard. Give it a look.

**Week 8. Tutorial on Inking Your Project 2 Drawings.**

Lecture topic: **You and Your Ink Pen.**

- A short examination on class readings and lectures will precede the lecture.

- Project 1 paper due on Friday, October 16 at 5 p.m.
- Reading to complete by Week 14 (there'll be a question or two on the final exam): Daniel S. Parrott. *Tall Ships Down: The Last Voyages of the Pamir, Albatross, Marques, Pride of Baltimore, and Maria Asumpta* (Camden, Maine and New York: International Marine and McGraw-Hill, 2004). Copies can be signed out from the NAP Library.

### **Week 9. The Equipment of a Ship, Part II.**

Lecture topics: **Pumps and Small Boats.**

Reading:

Lavery. *Arming and Fitting*. Read Parts IV and X (pp. 66-72, 207-232).

Thomas Oertling. *Ships' Bilge Pumps, A History of Their Development, 1500-1900* (College Station: Texas A&M University Press, 1996). Have a look through this.

W. E. May. *The Boats of Men-of-War*. London: Chatham, 1974 and 1999). Have a look through this, too.

Brady. *The Kedge-Anchor*. Boat handling pp. 152-153, 240-246, 326.

### **Week 10. External Hull Maintenance.**

Lecture topic: **Nathaniel Uring's near-disaster: Hull Maintenance and Sheathing.**

Reading:

Lavery. *Arming and Fitting*. Read Part III (pp. 56-62).

Miscellaneous authors. Binder with offprints of sheathing articles, NAP Library Reserve.

### **Week 11. Lading the Ship.**

Lecture topics: **Ballast; containers; stowage.**

Reading:

Lavery. *Arming and Fitting*. Read Part IX (pp. 186-206).

Brady. *The Kedge-Anchor*. Read 103-104.

Lloyds of London. *Survey Handbook for the Guidance of Lloyds Agents in dealing with Surveys on Damaged Goods* (Lloyds of London, 1952). Look through this book to see the many ways that cargoes could be damaged or lost in port or at sea.

### **Week 12. Defending the Ship.**

Lecture topic: **Ordnance and options: Fight, flee, or surrender.**

Reading:

Lavery. *Arming and Fitting*. Read Parts V, VI, and VII (pp. 80-144).

Hocker, Frederik. "Ships, shot, and splinters: the effect of 17<sup>th</sup> century ordnance on ship Structure" (ISBSA Conference 14 *Proceedings*, pp. 193-200).

☞ Attendance of all classes and participation in discussions are highly encouraged.

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#### The Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Support Services for Students with Disabilities in Room 126 of the Student Services Building. The telephone number is 845-1637.

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 Academic Integrity Statement:

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

Any questions about this?

See the Student Honor Council Rules and Procedures on the web at <http://www.tamu.edu/aggiehonor>  
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*Campus Safety Measures*

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University has adopted policies and practices for the Fall 2020 academic term to limit virus transmission. Students must observe the following practices while participating in face-to-face courses and course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.):

- Self-monitoring—Students should follow CDC recommendations for self-monitoring. **Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely and should not participate in face-to-face instruction.**
- Face Coverings—Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Description of face coverings and additional guidance are provided in the Face Covering policy and Frequently Asked Questions (FAQ) available on the Provost website.
- Physical Distancing—Physical distancing must be maintained between students, instructors, and others in course and course-related activities.
- Classroom Ingress/Egress—Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Leave classrooms promptly after course activities have concluded. Do not congregate in hallways and maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.
- To attend a face-to-face class, students must wear a face covering (or a face shield if they have an exemption letter). If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the Student Conduct office for sanctions. Additionally, the faculty member may choose to teach that day’s class remotely for all students.

*Personal Illness and Quarantine*

Students required to quarantine must participate in courses and course-related activities remotely and **must not attend face-to-face course activities**. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities. Students experiencing personal injury or illness that is too severe for the student to attend class qualify for an excused absence (See Student Rule 7, Section 7.2.2.) To receive an excused absence, student must comply with the documentation and notification guidelines outlined in Student Rule 7. While Student Rule 7, Section 7.3.2.1, indicates a medical confirmation note from the student’s medical provider is preferred, **for Fall 2020 only, students may use the Explanatory Statement for Absence from Class form in lieu of a medical confirmation. Students must submit the Explanatory Statement for Absence from Class within three business days after the last date of absence.**

*Operational Details for Fall 2020 Courses*

For additional information, please review the FAQ on Fall 2020 courses at Texas A&M University.

## Outfitting and Sailing the Wooden Ship, 1400-1900: Course Requirements

This course will meet once a week on Tuesday mornings from 9 to noon for lectures by Dr. Crisman or guest speakers. Questions and comments are strongly encouraged, as is the taking of detailed notes (two short exams will test your knowledge of the material covered in the lectures and readings). Outside of class your attention should be directed to two projects (described below). Project 2 will be especially time-intensive, and all participants are encouraged to *get an early start* on the research and drafting. Please keep Dr. Crisman up to date on your progress and bring in drawings for regular review.

### Project 1. Read and review of a primary account of seafaring (a journal or memoir) (30% of final grade)

Select an original journal or memoir describing a voyage, a series of voyages, or a career at sea (see the Hakluyt Society publications for examples). Your selection must be approved by Dr. Crisman beforehand. Prepare an 8-10 page (+ bibliography and illustrations) review that provides a historical context for the account and summarizes the book's contents, highlighting references to the outfitting and sailing of vessels. This might include, but does not have to be limited to, the topics listed in your syllabus. What does this account tell us about contemporary ship construction and seafaring technology, seafaring practices, or shipboard life and routines? How useful is it likely to be for nautical archaeologists? What is the writer's viewpoint – officer, ordinary sailor, or passenger? What motivated the author to write this account? How reliable does it appear to be?

Your paper should be more than just a narrative that summarizes the book's contents. I will be expecting synthesis and analysis of the account. Reference specific pages in your text. Be scholarly and informative, yet succinct. Maps or tables summarizing voyages, vessel types, duties, or other types of data are welcome. Be sure to follow the term paper guidelines. Begin looking for your book Week 1. Complete selection and approval by Week 3. Review are due **by 5 p.m. on Friday, October 16**. Late papers will receive a lower grade.

### Project 2. Prepare a spar and rigging plan for a sailing vessel circa 1400-1900 (60% of final grade: 30% rig plans and 30% rig paper)

Select a naval or merchant vessel, preferably one with a set of lines drawings, and reconstruct the sailing rig. Tables of spar dimensions or rules of proportions can be found for many vessel types, but your evidence should also include contemporary illustrations and documents, and (of course) archaeological data. Your reconstruction may depend heavily upon *informed* conjecture. Seek out as many sources (especially archaeological sources) as possible and build a strong case for the dimensions, arrangement, and components of your ship's rig.

Your final results will consist of a minimum of two inked plans: 1) a mast and spar profile, and 2) the mast and spar profile showing standing and running rigging. Other drawings of rigging details are welcome. This project also includes preparation of a 10- to 15-page paper (following term paper guidelines), describing the elements, dimensions and qualities of your rig, and reviewing the evidence upon which you based your reconstruction. This is a scholarly paper - cite your sources and include a bibliography.

Your final grade will be based upon the thoroughness of your research, the detail, accuracy and neatness of your finished products and the quality and scholarship of your paper. The degree of difficulty of your project will also be factored into the final grade. You should have a hull and rig type selected no later than Week 4 (this must be approved by Dr. Crisman). The final products (inked drawings and paper) are due by 5 p.m. on **Friday, December 3 by 5 p.m.** Late projects will receive a lower grade.

### 4. Two short exams. 10% of final grade.

Your knowledge of the topics covered in this class, as well as your diligence in taking notes and reading, will be tested in two short exams (5% of final grade each) on **October 13 and on an early December day TBD**. I am planning for these exams to be administered via Zoom.

## ANTH 610

### Fall 2020 Course Schedule

<u>Week</u>	<u>Date</u>	<u>Topic</u>
1)	August 25	Introduction and Sources. Intro to Propelling the Ship.
2)	September 1	Propelling the Ship, Part I: Sailing Rigs, Masts & Spars.
3)	September 8	Propelling the Ship, Part II: Spars, Standing and Running Rigging. ● Project 1 book selected and approved.
4)	September 15	Propelling the Ship, Part III: Rigging and Sails. ● Project 2 ship & rig selected and approved.
5)	September 22	Tacking and Wearing: Lessons in Square Rigged Ship Sailing. Guest lecture by Annaliese Dempsey.
6)	September 29	High and Low Pressure: Marine Steam Engines and the Archaeologist. Guest lecture by Glenn Grieco.
7)	October 6	Steering, Centerboards, and Ground Tackle.
8)	October 13	Tutorial on Inking Your Project 2 Drawings. ● <b>Short exam</b> on class readings and lectures.
	October 16 (Fri.)	● <b>Project 1 paper due</b> at 5 p.m.
9)	October 20	Pumps and Small Boats.
10)	October 27	External Hull Maintenance.
11)	November 3	Lading the Ship. ● <b>Project 2 pencil drawings due.</b>
12)	November 17	Defending the Ship.
	November 24	Last Day of Class/Thanksgiving Vacation.
13)	December 3 (Thur.)	● <b>Project 2 inked drawings and paper due</b> at 5 p.m.
	December TBD	● <b>Short final exam</b> on readings and lectures.