

## FLORIDA STATE COLLEGE AT JACKSONVILLE

## COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER:	MTE 2803
COURSE TITLE:	Celestial Navigation
PREREQUISITE(S):	MTE 2802
COREQUISITE(S):	None
CREDIT HOURS:	3
CONTACT HOURS:	3
CONTACT HOUR BREAKDOWN:	
Lecture/Discussion:	3
Laboratory:	
Other _____:	
FACULTY WORKLOAD POINTS:	3
STANDARDIZED CLASS SIZE ALLOCATION:	30

## CATALOG COURSE DESCRIPTION:

This course is a study and application of nautical astronomy, star identification, and the use of celestial bodies in position finding at sea. Topics such as the use of the sextant, chronometer, standard time signals, nautical almanac, tables, and plotting sheets are also included.

SUGGESTED TEXT(S):	<u>The American Practical Navigator: "Bowditch."</u> Illustrate Edition (September 25, 2002). Author: Nathaniel Bowditch. Publisher: Paradise Cay Publications. ISBN: 0939837544.
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IMPLEMENTATION DATE:	Spring Term, 2008 (20082)
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REVIEW OR MODIFICATION DATE:	
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COURSE TOPICS	<u>CONTACT HOURS PER TOPIC</u>
I. Navigational Astronomy	6
a. Solar system	
b. Celestial sphere	
c. Hour angle	
d. Daily motion and horizontal system of coordinates	
II. The Sextant and Chronometer	6
a. Sextant and altitude corrections	
b. Latitude by meridian altitude	
III. Time and equation of time	3
IV. Sight Reduction	6
a. Sight reduction of the sun	
b. Sight Reduction of a Star	
c. Sight Reduction and plotting of a Running Fix	
V. The Almanacs, Tables and Area Plotting Sheets	9
a. Pole Star observations	
b. Determining Star Identification and selection	
c. Voyage planning using Gnomonic Charts	
VI. The Computations	9
a. Calculating Time of Meridian Passage	
b. Calculating Sunrise and Sunset	
c. Estimated time of arrival	
VII. Practical Techniques in Navigation	6
a. Aids to Navigation (IALA-A)	
b. International Publications	
c. Ocean Currents	
d. Sailings	
e. Navigation Equipment	
TOTAL CONTACT HOURS	45

PROGRAM TITLE: Industrial management (2278)  
COURSE TITLE: Celestial Navigation  
CIP NUMBER: 00606200101

LIST PERFORMANCE STANDARD(S) ADDRESSED:  
NUMBER(S): TITLES(S):

01.0 APPLY SUPERVISION SKILLS - The student should be able to:

- 01.03 Follow leadership principles and approaches.
- 01.04 Apply positive approaches to discipline.
- 01.06 Develop organizational plans.

02.0 COMMUNICATE EFFECTIVELY IN SUPERVISION - The student should be able to:

- 02.01 Solve problems in communicating.
- 02.03 Apply listening skills.
- 02.04 Use communication feedback effectively.
- 02.10 Prepare a written technical report.

07.0 EMPLOY CREATIVE THINKING TO ACHIEVE BUSINESS OBJECTIVES - The student should be able to:

- 07.01 Conduct and apply techniques for maximum production of ideas.
- 07.04 Oversee problem solving.

09.0 DEMONSTRATE APPROPRIATE COMMUNICATION SKILLS - The student should be able to:

- 09.02 Read and understand graphs, charts, diagrams, and tables commonly used in the industrial/occupational area.
- 09.03 Read and follow both written and oral instructions.
- 09.04 Answer and ask questions coherently and concisely.

10.0 DEMONSTRATE APPROPRIATE MATH SKILLS - The student should be able to:

- 10.03 Add, subtract, multiply, and divide using fractions, decimals, and whole numbers.

11.0 DEMONSTRATE APPROPRIATE UNDERSTANDING OF BASIC SCIENCE - The student should be able to:

- 11.02 Draw conclusions or make inferences from data.
- 11.04 Understand pressure

14.0 DEMONSTRATE KNOWLEDGE OF DATA-PROCESSING ACTIVITIES - The student should be able to:

- 14.04 Interpret operations of a flowchart of a simulated business job.
- 14.05 Check printout for error, correct, and resubmit.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

Section 1	COURSE PREFIX AND NUMBER: <b>MTE 2803</b>	SEMESTER CREDIT HOURS: <b>3</b>
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COURSE TITLE: **CELESTIAL NAVIGATION**

Section 2

TYPE OF COURSE: (Click on the box to check all that apply)

AA Elective                       AS Required Professional Course                       College Prep  
 AS Professional Elective                       AAS Required Professional Course                       Technical Certificate  
 Other  
 General Education: (For General Education courses, you must also complete Section 3 and Section 7)

Section 3 (If applicable)

INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:

Communications                       Social & Behavioral Sciences                       Mathematics  
 Natural Sciences                       Humanities

Section 4

INTELLECTUAL COMPETENCIES:

Reading                       Speaking                       Critical Analysis                       Quantitative Skills                       Scientific Method of Inquiry  
 Writing                       Listening                       Information Literacy                       Ethical Judgment                       Working Collaboratively

Section 5		METHOD OF ASSESSMENT
	LEARNING OUTCOMES	
• 1	Upon completion of course students will be able to:	
• 2	Calculate Latitude by Meridian Passage of any body and latitude by Polaris	Creative Projects / Quizzes & Tests
• 3	Gather, analyze and interpolate data using the sight reduction tables	Group discussions, oral presentations, written tests, reports, and/or demonstrate competency in the field
• 4	Calculate Position by sight reduction of any celestial body	Creative Projects / Quizzes & Tests
• 5	Calculate Nautical Twilight, Sun/Moon Rise/Set	Creative Projects / Quizzes & Tests
• 6	Determine celestial objects available for sight reduction using the rude starfinder	Group discussions, oral presentations, written tests, reports, and/or demonstrate competency in the field
• 7	Complete a voyage plan using a Gnomonic Chart; calculate sailing waypoints and ETA	Creative Projects / Quizzes & Tests
• 8	Operate and calibrate selected celestial navigation interments	Creative Projects

Section 6 Name of Person Completing This Form: **Amaya Davis** Date: **July 12, 2007**