

2019-2020 DR. JAMES A. LISNYK STUDENT SHIP DESIGN COMPETITION ENTRY FORM

**THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS
AMERICAN SOCIETY OF NAVAL ENGINEERS**

Title: WSCO: Container Carrying Articulated Tug and Barge

School: SUNY Maritime College

<u>Name</u>	Team Leader	Expected Grad. Date	Degree	Member of	
				SNAME	ASNE
Robert Henry	✓	May 2020	B.E. Naval Architecture	x	
Lauren McCord	✓	January 2021	B.E. Naval Architecture	x	
Bethany Champlin		May 2020	B.E. Naval Architecture	x	
Gabrielle Thompson		May 2020	B.E. Naval Architecture	x	
James Mateya		May 2020	B.E. Naval Architecture	x	

Complete and return form along with the Owner's Requirements no later than March 1, 2020 to **Mr. Patrick Naughton**, at pnaughton@gibbscox.com or **Mr. Patrick Naughton**, Gibbs & Cox Inc., 2711 Richmond HWY, SUITE 1000, Arlington, VA 22202, USA

I certify that the students and I are current undergraduate members of SNAME and/or ASNE as defined in the rules (have not completed more than four years is in a combined undergraduate/graduate program) and will remain so until the completion of the Competition.

Charles Munsch

Printed or Typed Name of Faculty Advisor

Signature of Faculty Advisor

Advisor's e-mail address:

cmunsch@sunymaritime.edu

Date submitted: 2/20/2020

Contact Person for follow-up queries or guidance, if necessary:

Name: Lauren McCord

Telephone: 609-204-9071

Email: laurenmcc.16@sunymaritime.edu

OWNER'S REQUIREMENTS FOR A CONTAINER CARRYING ATB

Introduction

A major national cargo liner operator intends to produce an ATB with container carrying capabilities to ensure quick turn over of cargo.

Trade Route

Gulf of Mexico- East Coast of U.S.

A typical round-trip voyage covers about 2,300 nautical miles in 10 days calling at two ports. Port of call may vary, but a typical voyage will go from New Orleans, LA to Charleston, SC. The total cargo volume carried on one round trip is loaded at the departure port and discharged at the arrival port.

Principal Cargo Types-Loading & Discharge Means

1. ISO standard 40' containers in holds loaded and discharged via shore side cranes
2. ISO standard 40' containers on weather deck loaded and discharged via shore side cranes

Cargo Access

Catwalk ramps between containers and on the side of the containers will allow access to ensure cargo is secured.

Limiting Particulars

	BARGE	TUG
LOA	Max 600 ft	Max 200ft
BEAM	Max 100 ft	Max 45ft
DEPTH	Max 45ft	Max 50 ft
DRAFT	25ft design	21 ft
AIR DRAFT	100ft maximum	100ft maximum

Speed, Range, DWT

Trial speed at Design Draft- 12 knots

Range- 3,000 nautical miles at 12 knots and 0.90 MCR with 10% fuel remaining.

Classification

ABS

Registry

United States of America

Complement

Minimum manning requirement for tug is 7 people. The people will live on the barge full time since the barge does not require people to live on board.

Berthing and hotel services to be provided for up to and including 10 crew members.

Special Design Considerations

In developing the design, the following considerations shall be addressed, considering at all times the requirements of applicable regulations and/or industry standards.

- Cargo hold design shall include either hatch covered holds or hatchless holds. The specific design pertaining to each will be addressed and designed according to ABS' Regulations.
- Selection of propulsion and auxiliary plants to have enough power to power both the tug and the barge
- Due to the trade route the tug should be able to dock without assistance of other tugs

Applicable Regulations

SOLAS criteria for enhanced crew safety

SubChapter M Requirements

EPA Emissions Requirements

EEDI Requirements

ABS Rules for Building and Classing Steel Barges: Jan 2020