



Future Maritime Navigation Technologies

Mariner Training Perspective United States Merchant Marine Academy

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Discussion Points

- **Employment Breakdown of USMMA Deck Graduates**
- **Current Deck Officer Navigation and Support Courses & Training**
 - ✓ In Residence
 - ✓ At Sea
- **Future Maritime Deck Officer Courses and Training Vision**



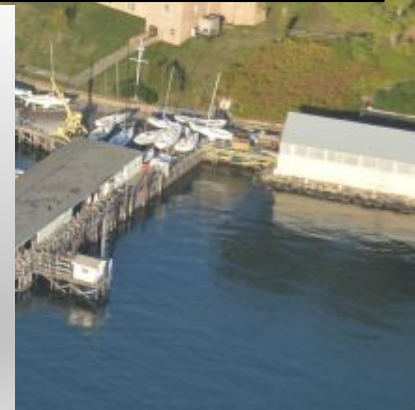
Employment Breakdown of USMMA Deck Graduates

Classes of 2014 – 2018 – Average Yearly Employment Breakdown	# of Grads	% of Grads
Active Duty Military/NOAA/PH	49	14.6%
Sailing US-Flag Merchant Marine (Deep-Sea)	100	44.3%
Sailing US-Flag (OSVs, Drilling)	12	16.4%
Sailing US-Flag (Near-Coastal / Tugs)	15	12.3%
Sailing US-Flag (Inland)	6	2.3%
Sailing International Flag (pending MARAD approval)	4	1.8%
Federal Government (pending MARAD approval)	13	4.6%
Maritime-Related Shoreside Employment (pending MARAD approval)	1	0.0%
Undecided	7	3.7%
Total	208	100 %



Current Deck Officer Navigation and Support Courses & Training

Year	Location	Term	Navigation and Support Courses	Credits
4 th Class Year	On Campus	1	NAUT 101 LEC Introduction to Nautical Sciences	3.0
		2	NAUT 120 LEC Terrestrial Navigation 1	3.0
			BUSN 101 Principles of Leadership	1.0
		3	NAUT 125 LEC Terrestrial Navigation 2	3.0





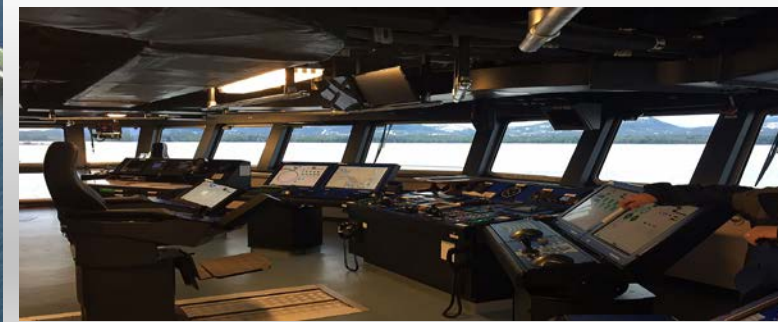
Current Deck Officer Navigation and Support Courses & Training

Year	Location	Term	Navigation and Support Courses	Credits
3 rd Class Year	On Campus	4	NAUT 140 LEC Maritime Communications	4.0
			NAUT 210 LEC Integrated Navigation 1	4.0
	At Sea	5	NPRJ 215 PRJ Integrated Navigation Systems 1	1.0
			NPRJ 230 PRJ Navigation 1	1.0
	On Campus	6	NAUT 215 LEC Integrated Navigation 2	4.0
			BUSN 230 LEC Principles of Management	3.0
			BUSN 201 Maritime Leadership and Management	2.0



Current Deck Officer Navigation and Support Courses & Training

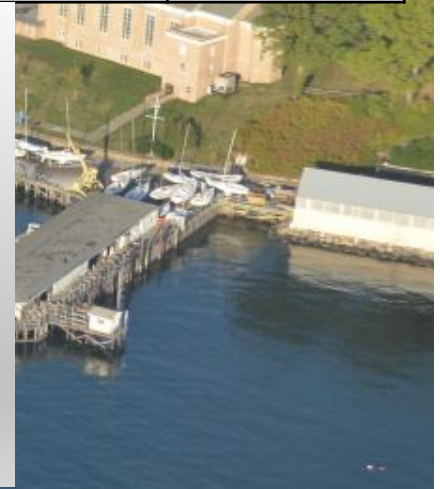
Year	Location	Term	Navigation and Support Courses	Credits
2 nd Class Year	On Campus	7	NAUT 225 LEC Celestial Navigation	4.0
			NAUT 240 LEC Meteorology	3.0
	At Sea	8	NPRJ 315 PRJ Integrated Navigation Systems 2	1.0
			NPRJ 330 PRJ Navigation 2	2.0
		9	NPRJ 345 PRJ Maritime Communications	1.0





Current Deck Officer Navigation and Support Courses & Training

Year	Location	Term	Navigation and Support Courses	Credits
1 st Class Year	On Campus	10	NAUT 310 – LEC Integrated Navigation 3	4.0
		11	NAUT 440 Flashing Light and Radar Observer Certificate	0.0
		12	NAUT 460 LEC Bridge Resource Management	4.0





Current Deck Officer Navigation and Support Courses & Training - Summary

- **Course work and training methods**
 - ✓ **Class Room Navigation, Leadership, Management and Communications Lectures**
 - ✓ **Lab sessions using state of the art ECDIS displays, ARPA and Bridge Simulator Equipment**
 - ✓ **Training aboard the T/V KINGS POINTER**
 - ✓ **Training aboard USNS and Commercial vessels during two separate sea year training periods**



Current Deck Officer Navigation and Support Courses & Training – USCG License Results

- Midshipmen USCG Navigation Modules License Results –
✓ 95% + Pass Rates





Future Maritime Deck Officer Courses and Training Vision

- **Facilities and Equipment**
 - ✓ **New/Refurbished Academy Facilities**
 - ✓ **State of the Art Simulation Capabilities**
- **Training Research and Development**
 - ✓ **Stakeholder Collaboration**
 - ✓ **New Technologies**



Future Maritime Deck Officer Courses and Training Vision

- **Course & Training Subject Matter**
 - ✓ **Cyber Concentration**
 - ✓ **Electro Technical Competencies**
 - ✓ **Systems and Operations Management**
 - ✓ **Digitalization and Autonomous Shipping**



Questions?

