Machinist's Mate - Nuclear - Submarine (MMN-SS)

January 2022

LaDR
NAVY LEARNING and DEVELOPMENT ROADMAP
Introducing
OaRS
OCCUPATIONAL and READINESS STANDARDS

MyNAVYHR
Serving Sailors 24/7

United States Navy Ethos

We are the United States Navy, our Nation's sea power - ready guardians of peace, victorious in war.

We are professional Sailors and Civilians - a diverse and agile force exemplifying the highest standards of service to our Nation, at home and abroad, at sea and ashore.

Integrity is the foundation of our conduct; respect for others is fundamental to our character; decisive leadership is crucial to our success.

We are a team, disciplined and well-prepared, committed to mission accomplishment. We do not waver in our dedication and accountability to our Shipmates and families.

We are patriots, forged by the Navy's core values of Honor, Courage and Commitment. In times of war and peace, our actions reflect our proud heritage and tradition.

We defend our Nation and prevail in the face of adversity with strength, determination, and dignity.

We are the United States Navy.

The Sailor's Creed

I am a United States Sailor.

I will support and defend the Constitution of the United States of America and I will
obey the orders of those appointed over me.

I represent the fighting spirit of the Navy and those who have gone before me to defend
freedom and democracy around the world.

I proudly serve my country's Navy combat team with Honor, Courage, and Commitment.

I am committed to excellence and the fair treatment of all.

CAREER ROADMAP

Fireman Recruit to Master Chief Roadmap

The educational roadmap below will assist Sailors in the Machinist's Mate - Nuclear - Submarine community through the process of pursuing professional development and advanced education using various military and civilian resources e.g. PQS program; JST Joint Service Transcript; E-Learning; Navy College Network; etc. Successful leadership is the key to military readiness and will always require a high degree of technical skill, professional knowledge, and intellectual development.

What is a Career Roadmap for Machinist's Mate - Nuclear - Submarine?

Machinist's Mate - Nuclear - Submarine roadmaps are just what the name implies - a roadmap through the Enlisted Learning and Development Continuum from Fireman Recruit through Master Chief. The principal focus is to standardize a program Navy wide by featuring the existing skills necessary to be successful in the Navy. The ultimate goal of a roadmap is to produce a functional and competent Sailor.

What is the Enlisted Learning and Development Continuum?

Enlisted Learning and Development Continuum is the formal title given to the curriculum and process building on the foundation of Sailorization beginning in our Delayed Entry Program through Recruit Training Command and throughout your entire career. The continuum combines skill training, professional education, well-rounded assignments, and voluntary education. As you progress through your career, early-on skill training diminishes while professional military education gradually increases. Experience is the ever-present constant determining the rate at which a Sailor trades skill training for professional development.

Do Sailors have to follow the Roadmap?

Yes. The Machinist's Mate - Nuclear - Submarine roadmap includes the four areas encompassed by the Continuum in Professional Military Education to include; Navy Professional Military Education (NPME), Joint Professional Military Education (JPME), Leadership and Advanced Education.

Some training and education is mandatory (Recruit Training, Machinists Mate Nuclear (Submarines) School at Charleston, SC, E-Learning, etc.). Some may be directed by your chain of command (Microsoft Excel and PowerPoint courses), and the remainder is voluntary (MNP, E-Learning, college courses, etc.). Sailors are advised to seek out mentors, including your Command Master Chief, Senior Enlisted Advisor, Leading Chief Petty Officer, Leading Petty Officer and Command Career Counselor, and to make use of your Navy College Virtual Education Center (VEC) or OCONUS Education Office's vast resources. All are uniquely qualified to help you along the way.

Notes:

MMN CAREER PATH
(SS AND SW)

Machinist's Mates (Nuclear) are involved in the supervision, operation, maintenance and administration of naval nuclear propulsion plants and associated equipment. They have a thorough understanding of reactor, electrical and mechanical theory involved in the operation of the nuclear reactor, steam plant, propulsion plant and auxiliary equipment. Some (ELTs, LELTs) possess a detailed knowledge of reactor and steam plant chemistry and radiological controls. They operate and perform maintenance on reactor and propulsion mechanical systems, steam systems and supporting equipment and systems.

YEARS OF SERVICE	CAREER MILESTONES	AVERAGE TIME TO PROMOTE	COMMISSIONING OR OTHER SPECIAL PROGRAMS	SEA/ SHORE FLOW	TYPICAL CAREER PATH DEVELOPMENT
26-30	MMNCM	19 Yrs	CSEL	36	4th Shore Tour Billet: CSEL/Plant Master Chief/ Staff lnst./Maint. Sup. Duty: NPTU/NFAS/NPS/IMA/Staff. Qualification: NEC N15S/N16S/N25S/N26S, N31Z/N32Z
24-25	MMNCM	19 Yrs	CSEL	40	4th Sea Tour Billet: CSEL/Dep. LCPO/EDMC/RDMC. Duty: SSN/SSBN/SSGN {N15S/N16S}/CVN {N25S/N26S}. Qualification: NEC N15S/N16S/N25S/N26S, N31Z/N32Z
21-23	MMNCM	19 Yrs	CSEL	36	3rd Shore Tour Billet: Instr./Maint. Sup./Staff/Recruiter. Duty: NPTU/NFAS/NPS/IMA/Staff/Recruiting. Qualification: NEC N15S/N16S/N25S/N26S, N31Z/N32Z
18-20	MMNCM MMNCS	19 Yrs 15 Yr	CSEL	40	3rd Sea Tour Billet: Dep. LCPO/EDMC/Div. LCPO. Duty: SSN/SSBN/SSGN {N15S/N16S}/CVN {N25S/N26S}. Qualification: NEC N15S/N16S/N25S/N26S, N31Z/N32Z
14-17	MMNCS	15 Yrs	LDO, CSEL	36	2nd Shore Tour Billet: Instr./Ship and Component Main Tech./ Staff/Recruiter. Duty: NPTU/NFAS/NPS/IMA/Staff/Recruiting. Qualification: NEC N15S/N16S/N25S/N26S, N32Z
10-13	MMNC	11 Yrs	LDO	40	2nd Sea Tour Billet: Division LPO/Asst. LPO/Division LCPO. Duty: SSN/SSBN/SSGN {N15S/N16S}/CVN {N25S/N26S}. Qualification: NEC N15S/N16S/N25S/N26S, N32Z
7-9	MMN1	6 Yrs	STA-21(N), LDO	36	1st Shore Tour Billet: Instr./Maint Tech/Recruiter. Duty: NPTU/NFAS/NPS/IMA/Recruiting/RDC. Qualification: NEC N15S/N16S/N25S/N26S
3-6	MMN1 MMN2	6 Yrs 3 Yrs	STA-21(N)	48	1st Sea Tour Billet: Steam/Reactor Plant Operator/Maint. Tech. Duty: SSN/SSBN/SSGN {N15O/N16O}/CVN {N25O/N26O}. Qualification: Senior in Rate/Warfare Qual/ Supervisor NEC N15S/N16S/N25S/N26S
1-2	MMN3 Accession Training	14 wks "A" School Completion	STA-21(N)	N/A	Recruit/Apprenticeship Training (up to 82 weeks) Duty: RTC/NFAS/NPS/NPTU. (Some will have 24-month Junior Staff Instructor tour at NPTU). Qualification: NEC N91T

Revised: December 2019

MMN CAREER PATH
(SS AND SW)

Notes:
1. MMNs are rarely detailed outside the nuclear community.

2. The nuclear community values sustained, superior performance at sea in a leadership role (Leading Petty Officer (LPO), Leading First, etc.) and on shore duty (training, maintenance, recruiting, Recruit Division Commander, etc.).

3. Variety of experience and success in various positions are beneficial to our future leadership positions. Those assigned to Forward Deployed Naval Forces (FDNF) and Courier Positions are specially screened.

Candidates for advancement from E6 to E7 are:

a. FULLY QUALIFIED if:
   1) They possess a supervisor NEC (N15S/N16S for submarines, N25S/N26S for surface) AND
   2) Previously or currently qualified Engineering Watch Supervisor or Propulsion Plant Watch Supervisor.
   3) N16S have obtained the Leading Engineering Laboratory Technician (LELT) qualification.

b. BEST QUALIFIED if they meet the FULLY QUALIFIED standard AND:
   1) Served as LPO, Assistant LPO, Leading First, LELT, or Engineering Department Training Assistant for 12 or more months OR
   2) Have a history of sustained superior performance defined as a majority of their Individual Trait Averages ABOVE Reporting Senior Cumulative Average.

c. NOT ELIGIBLE: Per BUPERSINST 1430.16, members participating in a commissioning program (STA-21 Nuclear/Core) are not eligible for advancement to CPO. Per reference BUPERSINST 1430.16, members who have a special category NEC (N59X for submarines or N89X for surface) are also not eligible for selection to CPO

d. AMPLIFYING INFORMATION: Few may qualify as Training Engineering Officer of the Watch (T-EOOW) at a Nuclear Power Training Unit (NPTU), which is normally stood by an Officer. T-EOOW requires significant leadership ability and in-depth understanding of reactor plant operations. Only the best complete this qualification.

Candidates for advancement from E7 to E8 are:

a. FULLY QUALIFIED if:
   1) They meet the FULLY QUALIFIED and BEST QUALIFIED standards for advancement from E6 to E7.
   2) NEC N15S/N16S have obtained the Engineering Department Master Chief (EDMC) qualification (NEC N32Z).

b. BEST QUALIFIED if they meet the FULLY QUALIFIED standard AND
   1) NEC N15S/N16S are serving or served as LELT or Leading Chief Petty Officer (LCPO) on a submarine OR Leading Crew Chief (LCC) at an NPTU.
   2) NEC N25S/N26S are serving or served as Reactor Auxiliary, Reactor Laboratory, Reactor Mechanical, Reactor Propulsion, or Reactor Networks CPO or LCPO on an aircraft carrier OR LCC at an NPTU.

c. NOT ELIGIBLE: Per BUPERSINST 1430.16, members who have a special category NEC (N59X for submarines or N89X for surface) are not eligible for selection to SCPO

d. AMPLIFYING INFORMATION:
   1) For N15S/N16S, few may qualify as Chief of the Watch (COW), Diving Officer of the Watch (DOOW), or Pilot (Virginia Class), but these non-nuclear qualifications are not a prerequisite for advancement.
   2) For N25S/N26S, few may qualify as Propulsion Plant Watch Officer (PPWO), which is normally stood by an Officer. PPWO requires significant leadership ability and in-depth understanding of reactor plant operations. Only the best complete this qualification.
   3) Few may qualify as T-EOOW at NPTU, which is normally stood by an Officer. T-EOOW requires significant leadership ability and in-depth understanding of reactor plant operations. Only the best complete this qualification.

Candidates for advancement from E8 to E9 are:

a. FULLY QUALIFIED if:
   1) They meet the FULLY QUALIFIED and BEST QUALIFIED standards for advancement from E7 to E8.
   2) NEC N15S/N16S are serving or served as EDMC.
   3) NEC N25S/N26S have obtained the Reactor Department Master Chief (RDMC) qualification (NEC N31Z).

b. BEST QUALIFIED if they meet the FULLY QUALIFIED standard AND
   1) NEC N25S/N26S are serving or served as Divisional LCPO or Reactor Training Division Officer on an aircraft carrier OR Staff Training Group LCPO or LCC at NPTU.

c. NOT ELIGIBLE: Per BUPERSINST 1430.16, members who have a special category NEC (N59X for submarines or N89X for surface) are not eligible for selection to MCPO

d. AMPLIFYING INFORMATION:
   1) For N15S/N16S, few may qualify as COW, DOOW, or Pilot, but these non-nuclear qualifications are not a prerequisite for advancement.

MMN CAREER PATH
(SS AND SW)

2) For N25S/N26S, few may qualify as PPWO, which is normally stood by an Officer. PPWO requires significant leadership ability and in-depth understanding of reactor plant operations. Only the best complete this qualification.
3) Few may qualify as T-EOOW at NPTU, which is normally stood by an officer. T-EOOW requires significant leadership ability and in-depth understanding of reactor plant operations. Only the best complete this qualification.

Machinist's Mate - Nuclear - Submarine
Occupational and Readiness Standards (OaRS) to E4
NAVEDTRA 44061

NAME:

These Occupational and Readiness Standards (OaRS) may be used to validate minimum competencies for performing various rating-specific tasks in paygrade E4 in this rating. OaRS is based on the Occupational Standards (OCCSTDs) for the rating/paygrade. An E4 should possess the minimum competencies of their rating/paygrade, whereby OaRS may provide benefits as a tool to train towards and track those competencies achieved.

OaRS does not address ship/unit/system specific standards, which may be covered within Personnel Qualification Standards (PQS), Job Qualification Requirements (JQR), or local training/qualification programs. OaRS addresses the overall rating at the E4 level, not the Sailor's position, billet, or duty assignment.

Generally, each OaRS task area encompasses one or more occupational standards on the same or similar subjects and is written in on-the-job rating language. Completion indicates the Sailor can perform the tasks or can articulate knowledge of the tasks. If circumstances exist that limits a Sailor's ability to effectively demonstrate any OaRS task element due to equipment configuration, mission, or operational status, the Sailor can seek training or understanding from his/her peers, leadership, or refer to technical manuals.

OaRS completion is voluntary and is not designed to replace other qualification programs (e.g. PQS, JQR). OaRS items that duplicate "sign off" items in these types of programs can be signed off if they have already been signed off under any of these types of programs.

Task signatures are completed between the Sailor and the Sailor's supervisor, Leading Petty Officer (LPO) or E5 or above designee. Task sections are signed off by the Division Leading Chief or designee. Endorsement of completion of all OaRS tasks/sections are validated by the Division Officer, Department LCPO, Department Head, and Command Career Counselor (CCC).

ENGINEERING MANAGEMENT

Task Objective	** Supv Init	Date
Maintain small valve maintenance documentation		

** Supv Init may be LPO or E5 or above designee

DIVISION LEADING CHIEF (OR DESIGNEE) SIGNATURE:

PENALTY STATEMENT
Any person who, with intent to deceive, signs any false record, return, regulation, order, or other official document, knowing it to be false, or makes any other false official statement knowing it to be false, shall be punished as a court-martial may direct.
(Aug. 10, 1956, ch. 1041, 70A Stat. 71; Pub. L. 114–328, div. E, title LX, § 5419, Dec. 23, 2016, 130 Stat. 2946.)

LABORATORY MANAGEMENT

Task Objective	** Supv Init	Date
Analyze steam plant makeup water sources (e.g. distilling unit distillate, demineralized, potable, etc.)		
Sample lube oil systems (e.g. main, propulsion, shaft, turbine, etc.)		

** Supv Init may be LPO or E5 or above designee

DIVISION LEADING CHIEF (OR DESIGNEE) SIGNATURE:

PENALTY STATEMENT
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MECHANICAL MAINTENANCE

Task Objective	** Supv Init	Date
Adjust pump packing		
Adjust reducing valve set points		
Adjust relief valve set points		
Adjust valve packing		
Clean reactor plant system and system components (e.g. main coolant systems, steam generator components, reactor plant fresh water systems, etc.)		
Clean secondary plant system and system components (e.g. sea water systems, main steam systems, condensate systems, etc.)		
Complete remote operability of key reactor plant valves checklists		
Lubricate reactor plant system, and system components (e.g. main coolant systems, steam generator components, reactor plant fresh water systems, etc.)		
Lubricate secondary plant system and system components (e.g. sea water systems, main steam systems, condensate systems, etc.)		

** Supv Init may be LPO or E5 or above designee

DIVISION LEADING CHIEF (OR DESIGNEE) SIGNATURE:

PENALTY STATEMENT

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(Aug. 10, 1956, ch. 1041, 70A Stat. 71; Pub. L. 114–328, div. E, title LX, § 5419, Dec. 23, 2016, 130 Stat. 2946.)

MECHANICAL SYSTEMS OPERATIONS

Task Objective	** Supv Init	Date
Align air compressors (e.g. startups, shutdowns, etc.)		
Align air systems (e.g. change reducer settings, system lineup alterations, etc.)		
Align auxiliary feed systems (e.g. startups, shutdowns, etc.)		
Align auxiliary seawater systems (e.g. startups, shutdowns, cross-connects, etc.)		
Align bilge and oily water systems		
Align condensate and feed systems		
Align coolant support systems (e.g. charging, discharging, sampling, etc.)		
Align demineralized water systems (e.g. startups, shutdowns, tank fills, etc.)		
Align distilling units (e.g. startups, shutdowns, etc.)		
Align lube oil purification systems (e.g. purifier startups, purifier shutdowns, line ups to purify, etc.)		
Align main lube oil systems (e.g. startups, shutdowns, samplings, etc.)		
Align main seawater systems (e.g. startups, shutdowns, cross-connects, etc.)		
Align main steam systems (e.g. startups, shutdowns, cross-connects, etc.)		
Align potable water systems (e.g. startups, shutdowns, tank fills, etc.)		
Align propulsion lube oil systems (e.g. startups, shutdowns, samplings, etc.)		
Align reactor air systems (e.g. air flask refills, pressure control, blowdowns, etc.)		
Align reactor fill systems (e.g. startups, shutdowns, flow adjustments, shifting of water sources, etc.)		
Align reactor plant fresh water systems (e.g. startups, shutdowns, cooling adjustments, etc.)		
Align reactor plant sea water systems (e.g. startups, shutdowns, shifting of coolers, etc.)		
Align reboiler systems (e.g. startups, shutdowns, blowdowns, etc.)		
Align reserve and makeup feed systems (e.g. startups, shutdowns, tank fills, etc.)		
Align steam drain systems (e.g. fresh water, high pressure, low pressure, etc.)		
Align steam driven pumps (e.g. main feed, main circulate, turbine driven fire, etc.)		
Align steam generating systems (e.g. startups, shutdowns, samplings, blowdowns, etc.)		
Align steam plant auxiliary systems (e.g. steam, gland seal, gland exhaust, etc.)		
Align turbine generator lube oil systems (e.g. startups, shutdowns, samplings, etc.)		
Align valve operating systems (e.g. lineup changes, tank fills, manual operations, etc.)		
Analyze reactor plant system and system component pressure, temperature, and chemistry parameters (e.g. main coolant systems, steam generator components, reactor plant fresh water systems, etc.)		
Analyze secondary plant system parameters and system pressure, temperature, and levels (e.g. sea water systems, main steam systems, condensate systems, etc.)		
Inspect reactor plant system and system component pressure, temperature, and chemistry parameters (e.g. main coolant systems, steam generator components, reactor plant fresh water systems, etc.)		
Inspect secondary plant system parameters and system pressure, temperature, and levels (e.g. sea water systems, main steam systems, condensate systems, etc.)		

** Supv Init may be LPO or E5 or above designee

DIVISION LEADING CHIEF (OR DESIGNEE) SIGNATURE:

PENALTY STATEMENT

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(Aug. 10, 1956, ch. 1041, 70A Stat. 71; Pub. L. 114–328, div. E, title LX, § 5419, Dec. 23, 2016, 130 Stat. 2946.)

COMMAND ENDORSEMENT
Command signatures signify the meeting of the minimum competencies for those in paygrade E-4 in this rating.
Signature level at discretion of command.

DIVISION OFFICER:

_____

DEPARTMENT LCPO:

_____

DEPARTMENT HEAD:

_____

COMMAND CAREER COUNSELOR:

_____

PENALTY STATEMENT
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(Aug. 10, 1956, ch. 1041, 70A Stat. 71; Pub. L. 114–328, div. E, title LX, § 5419, Dec. 23, 2016, 130 Stat. 2946.)

Command Comments – Command Use Only:

Enlisted Community Manager Comments:
Machinist's Mate - Nuclear - Submarine
Occupational and Readiness Standards (OaRS) to E4
NAVEDTRA 44061

Once an individual Sailor's Occupational and Readiness Standards (OaRS) have been completed and endorsed by the Command Career Counselor (CCC), documentation of completed OaRS by the Command Pay and Personnel Administrator (CPPA), Training Officer, or other authorized command representative will be via Navy Standard Integrated Personnel System (NSIPS) within the Personnel Qualifications section, or Advanced Skills Management (ASM) within the Qual/Cert Records tab. Entries will generate an Enlisted Service Record (ESR) and Electronic Training Jacket (ETJ) entry. These entries provide Sailors with electronic documentation of OaRS completion as well as Command and Navy stakeholders ability to monitor the execution of OaRS.

Machinist's Mate - Nuclear - Submarine
Fireman Recruit to Fireman

NAME:

SKILL TRAINING

(Schools, courses and assignments directly related to occupation)

REQUIRED SKILL TRAINING

Course Title	Course Location	CIN/CSE ID	Course Length	Date Completed
Recruit Basic Military Training [1]	Great Lakes, IL	A-950-0001	8 weeks	
Nuclear Field Class A School Machinist Mate [1]	Charleston, SC	A-661-0103	13 weeks	

1 - Reserve opportunities may exist, contact Reserve Forces Code N7 for authorization.

RECOMMENDED SKILL TRAINING

Course Title	Course Location	CIN/CSE/ACE ID	Course Length	Date Completed
None				

NAVY ENLISTED CLASSIFICATION CODE (NEC) OPPORTUNITIES

Course Title	Course Location	CIN/CSE/ACE ID	Course Length	Date Completed
N91T - Nuclear Propulsion Plant Operator Trainee [1] [2]	Charleston, SC		24 weeks	

1 - Reserve opportunities may exist, contact Reserve Forces Code N7 for authorization.
2 - Identifies personnel recruited or who have otherwise volunteered for nuclear propulsion training.

JOB DESCRIPTION

Student: In training to learn fundamental concepts in Mathematics, including Logarithms, Algebra, Trigonometry and Geometry. Specific rate training is provided in Basic Machinery, Mechanical Fundamentals, and Mechanical Equipment. The training includes theory of operation and required maintenance.

RECOMMENDED BILLET ASSIGNMENTS

STUDENT enrolled in the above courses. Upon successful completion of Nuclear Field Class “A” School, student is transferred to Nuclear Power Training “C” School, in Charleston, SC.

PERSONAL AND PROFESSIONAL DEVELOPMENT
(Completed at reporting 60 day Career Development Board)

Command Address		QD Phone Number:	
Mobilization UIC:			
Naval Reserve Activity:			
Division Officer:		Phone Number:	
Leading Chief Petty Officer:		Phone Number:	
Leading Petty Officer:		Phone Number:	
Sponsor/Mentor:		Phone Number:	
Depart/Division Career Counselor:		Phone Number:	

Date of Initial Entry to Military Service (DIEMS): Date of Initial Entry Reserve Forces (DIERF):

Pay Entry Base Date (PEBD):

ADSD: Report Date: EAOS/EOS: PRD: SEA / SHORE: /

PAYGRADE E1/E2 (9 months time in service required for advancement to E2 and E3)
PAYGRADE E3 (6 months time in service required to be eligible for advancement to E4)

Date Advanced: Eligible Advancement Date: Number of times up:

HYT Date: Security Clearance Level: Date Last updated:

Command INDOC complete:

CAREER DEVELOPMENT BOARDS:
Use OPNAVINST 1040.11(ser) & Career Counselor Handbook NAVPERS 15878
Reason for Convening/Discussion Items: (Upon completion update (CIMS) Career Information Management System)

Reporting (within 60 days for active duty or four drill weekends for SELRES) (Date Conducted):

Professional Apprenticeship Career Track (PACT) only:
6 Month: 12 Month: 18 Month:

24 Month: 48 Month: 60 Month:

Family Care Plan: Mil to Mil:

Sailor 360: Special Program: Member Request:

HYT 24 months (Date): HYT Waiver Date: ☐ Approve ☐ Disapprove

C-WAY-REEN 18 months to EAOS/EOS: Career Waypoint not approved:

Rating Conversion: Navy Formal Training Schools Request ("A"/"C"etc):

Transfer: Separation: Career Status Bonus (election message received):

Physical Fitness Test Failure: Overseas Tour Extension Incentives Program (OTEIP):

Advancement Center: Visit MNP Advancement & Promotion page located under the Career & Life Events Tab
(Items to collect/discuss: Bibliography for Advancement, Enlisted Advancement Exam Strategy Guide, Profile Sheets)

Advancement:

Enlisted to Officer Commissioning Program Application & Administration Manual OPNAVINST 1420.1(series):

Commissioning Programs Applications: (prior to submission, command endorsement):

Seaman to Admiral 21 (STA-21): Medical Enlisted Commissioning Program (MECP):

Naval Academy: Naval Academy Preparatory School (NAPS):

Officer Candidate School:

QUALIFICATIONS

Sea/Shore General Qualifications Watch Standing Qualifications	Report Date	Completion Date (N/A if not required)

Mandatory warfare qualification for enlisted Sailors assigned to designated warfare qualifying commands:

Warfare qualification programs	Report Date	Completion Date (N/A if not required)

Rate Specific/Department Qualifications (Add)	Report Date	Completion Date (N/A if not required)

Notes on Qualifications:

CREDENTIALING

Navy Credentialing Opportunities On-Line (Navy COOL): Navy COOL assists Sailors (active & reserve) by funding the certification & licensing exams that map their Navy education, training, experience, and competencies to industry/civilian-recognized credentials and occupational equivalents. Sailors may obtain funding for credential examinations, renewals, maintenance fees, and other mandatory examination administrative fees.

The following certifications and licenses are applicable to the MMN-Machinist's Mate, Nuclear Power rating. *They may require additional education, training or experience.*

For more information about these credentials, visit NAVY COOL at https://www.cool.osd.mil/usn/.

Target Paygrade	Certifying Agency	Credential Title	Date Completed
E5	Institute of Certified Professional Managers (ICPM)	Certified Manager (CM)	
E6	International Society of Automation (ISA)	Certified Control Systems Technician - Level I (CCST-I)	
E6	International Society of Automation (ISA)	Certified Control Systems Technician - Level II (CCST-II)	
E6	International Society of Automation (ISA)	Certified Control Systems Technician - Level III (CCST-III)	
E6	National Registry of Radiation Protection Technologists	Registered Radiation Protection Technologist (RRPT)	
	North American Electric Reliability Corporation (NERC)	Balancing and Interchange Certification (BI)	
	North American Electric Reliability Corporation (NERC)	Balancing, Interchange, and Transmission Operator Certification (BT)	
	North American Electric Reliability Corporation (NERC)	Reliability Operator Certification (RC)	
	North American Electric Reliability Corporation (NERC)	Transmission Operator Certification (TO)	
E6	Society for Maintenance and Reliability Professionals (SMRP)	Certified Maintenance and Reliability Technician (CMRT)	
	Transportation Security Administration (TSA)	Transportation Worker Identification Credential (TWIC)	
	United States Coast Guard (USCG)	STCW III/1 - OICEW or DDE 750 kW/1000 HP or More	

Out of Rate Certifications and Licensure

Academic Degrees – You are now eligible for credentials towards an earned academic degree.

Cross-Rated Sailors – If you have cross-rated, you now are eligible for credentials related to your prior rating.

Off-Duty or Command-Sponsored Training – You are now eligible for credentials for documented training that fully prepares you for a credential.

Navy Reservists – You may now be eligible for funding of credentials related to your civilian occupation.

Prior Other-Service Enlisted Occupation - If you are Navy enlisted (Active or Reserve), you may now be eligible for funding for credentials related to prior other-Service (Army, Air Force, Marine Corps, Coast Guard) enlisted occupation.

Collateral Duty/Out of Rate Assignments - Credentials are also available in these collateral duties/out of rate assignments in which you are serving in or have served in.

Credentials Earned & Maintained Prior to Joining the Navy - If you are Navy enlisted (Active or Reserve), you may now be eligible for funding for credentials that were earned, and maintained, prior to your enlistment in the Navy. The certification or license must have relevance to the needs of the Navy, and must appear on Navy COOL, although it does not need to show the Navy Bucks icon to be funded.

* See the *Additional Funding Opportunities* section on any rating page on Navy COOL for further details.

United Services Military Apprenticeship Program (USMAP): USMAP is available to most active duty occupations and is certified by the U.S. Department of Labor. This is the largest apprenticeship program operating in the U.S. and is recognized by all 50 states. Completion of one of these programs would qualify you as a journeyman, which could mean a significantly higher starting salary in the civilian work force. Most programs require 5-8 years to complete but are transferable if you decide to leave the service prior to completion. USMAP opportunities also exist for SELRES with orders over 12 months.

The following USMAP apprenticeships are applicable to the MMN-Machinist's Mate, Nuclear Power rating.

For more information about these apprenticeships, visit USMAP at https://usmap.osd.mil/index.htm.

Apprenticeship	Date Completed
Computer Operator	
Hydroelectric-Machinery Mechanic (Utilities)	
Industrial Maintenance Mechanic	
Power-Plant Operator	
Water-Treatment-Plant Operator	

POST MILITARY OCCUPATIONS

The following post military occupations are similar to the MMN-Machinist's Mate, Nuclear Power Rating. For more information about these occupations, visit NAVY COOL at https://www.cool.osd.mil/usn/.

Occupation (Civilian Employer)
Control and Valve Installers and Repairers, Except Mechanical Door
Electrical and Electronic Engineering Technologists and Technicians
Engine and Other Machine Assemblers
First-Line Supervisors of Production and Operating Workers
Hazardous Materials Removal Workers
Helpers--Installation, Maintenance, and Repair Workers
Industrial Machinery Mechanics
Maintenance and Repair Workers, General
Maintenance Workers, Machinery
Mobile Heavy Equipment Mechanics, Except Engines
Nuclear Monitoring Technicians
Nuclear Power Reactor Operators
Nuclear Technicians
Power Distributors and Dispatchers
Power Plant Operators
Pump Operators, Except Wellhead Pumpers
Ship Engineers
Stationary Engineers and Boiler Operators

Occupation (Federal Employer)
0830 - Mechanical Engineering Series
0840 - Nuclear Engineering Series
0871 - Naval Architecture Series
1310 - Physics Series
1320 - Chemistry Series
4749 - Maintenance Mechanic
4850 - Bearing Reconditioning
5306 - Air Conditioning Equipment Mechanic
5350 - Production Machinery Mechanic
5402 - Boiler Plant Operating
5415 - Air Conditioning Equipment Operating
5419 - Stationary-Engine Operating
9945 - Refrigeration Engineer
9958 - Evaporator-Utilityman
9963 - Fireman
9964 - Fireman-Watertender

STAY NAVY

AC to AC and FTS to FTS - Continue Navy career on Active Duty.

E6 and below with less than 14 years of service will require a C-Way Application to be approved for reenlistment or extension.

Once C-Way application is approved, the Sailor should request to Reenlist or Extend with the appropriate form.

REENLIST / EXTEND: Request Chit/Form:

Career Waypoints-Reenlistment Approval:

School as a Reenlistment Incentive:

Prior Service Reenlistment Eligibility - Reserve (PRISE-R):

MyNavy Assignments (MNA):

Medical/Dental Screening:

Command Recommendation (evaluation): Bonus: Ceremony:

RC to AC/FTS

See MILPERSMAN 1306-1505: Sailors may complete a component change from the Reserve Component (RC) to AC (RC2AC/FTS). This not only leverages existing skill sets that reside in the RC population to improve and maintain AC community health, but also provides qualified Sailors with an opportunity to resume or begin a career in the AC/FTS. This component change refers to a permanent transfer from RC2AC/FTS. This voluntary program enables qualified, eligible enlisted RC Sailors to submit applications in Career Waypoints (C-WAY) based on available quotas published on the Bureau of Naval Personnel (BUPERS), Enlisted Community Manager (BUPERS-32) Web page at: https://www.public.navy.mil/bupers-npc/enlisted/community/selres/Pages/EnlistedReserveOpportunities.aspx.
If you have any questions or concerns, contact your unit or NOSC career counselor.

RC to RC - Continue your Navy career as a Reservist.

Submit reenlistment request utilizing NAVRES 1160/1 Drilling Reservist Reenlistment Worksheet.

REENLIST / EXTEND: Request Chit/Form:

School as a Reenlistment Incentive:

MyNavy Assignments (MNA):

Medical/Dental Screening:

Command Recommendation (evaluation): Bonus: Ceremony:

AC/FTS to CIP

The Career Intermission Program allows Officers and Enlisted Sailors to transfer out of the active component (AC/FTS) and into the Individual Ready Reserve for a period of one to three years to pursue personal or professional obligations outside the Navy, while providing a means for their seamless return to active duty.
For additional information, go to: https://www.public.navy.mil/bupers-npc/career/reservepersonnelmgmt/IRR/Pages/CIP.aspx.

AC/FTS to Secretary of the Navy Tours with Industry

This program provides a venue for exceptional Sailors to experience innovative business practices. Navy fellows are fully immersed in company practices and will be actively engaged in projects and company operations. Past fellows were assigned to companies including VMware, Qualcomm, Apple, Incorporation, Boeing, Tesla, Oak Ridge National Laboratory, GE Digital, Amazon, FedEx, Northrup Grumman, Space X, LinkedIn and USAA.
For additional information go to: https://www.public.navy.mil/bupers-npc/career/talentmanagement/Pages/SNTWI.aspx.

Canvasser Recruiter (CANREC)

The Canvasser Recruiter (CANREC) Recall Program is a voluntary and temporary recall program for RC personnel to serve as production recruiters in support of the Navy Prior Service recruiting mission. Personnel eligible to volunteer for a Definite (also termed as “temporary”) Recall to Active Duty (ACDU) as a CANREC are Reserve Component (RC) members, specifically Selected Reserve (SELRES), Individual Ready Reserve (IRR-ASP), and Voluntary Training Unit (VTU) personnel.
For additional information, go to:
https://www.public.navy.mil/bupers-npc/career/reservepersonnelmgmt/definiterecall/Pages/CANRECRecall.aspx.

Career Waypoints-Reenlistment:

The Command Career Counselor is your local advocate to assist you with the Career Waypoints application process.

- E3-E6 Sailors with less than 14 years of service must submit a Career Waypoints application, regardless of reenlistment intentions. Sailors who do not desire to reenlist will submit an "intends to separate" application. Sailors not eligible for reenlistment will submit a "not eligible" application.
- The Career Waypoints system automatically generates most of the applications needed by Sailors. Applications must be submitted no later than 16 months prior to expiration of active/reserve obligated service (EAOS/EOS) or as extended (SEAOS/SEOS). Sailors with less than 24 months of contract time remaining at their projected rotation date (PRD) will submit an application 15 months prior to their PRD. In either case, the Career Waypoints system will automatically generate

applications for Sailors 18 months prior to either timeframe. Applications required outside of the established C-Way gates can be submitted as Special Circumstance applications. Examples of when these may be needed include OBLISERVE for special duty, decommissioning or homeport shift.

- The C-Way 3-2-1 Process aligns career decisions with the detailing process. Soft End of Active/Reserve Obligated Service (SEAOS/SEOS)/End of Active/Reserve Obligated Service (EAOS/EOS) applications are created by C-Way at the 18 month from S/EAOS/EOS mark and must be submitted by the Command Career Counselor at the 16 month mark. This provides time for the Career Counselor to validate the Sailor's information and to ascertain the Sailors career intentions. The first C-Way review gate occurs from 16 to 13 months from S/EAOS/EOS with career choice options of in-rate, conversion, and Selected Reserve. The second review gate occurs from 12 to 9 months from S/EAOS/EOS with career choice options of conversion and Selected Reserve. From 8 months to 4 months to S/EAOS/EOS the Sailor can only choose Selected Reserve affiliation.
- Monthly reenlistment quotas are limited and must be reserved for our best and brightest Sailors who desire to Stay Navy. Sailors must choose one of the following based on their desires and qualifications:
  - Reenlist-in-Rate,
  - Reenlist-in-rate, Willing to Convert
  - Convert only
  - AC to AC or FTS to FTS
  - RC to AC/FTS
  - RC to RC
  - AC/FTS to CIP (Intermission)
  - AC/FTS to Tour w/ Industry
  - SELRES option
  - Canvasser Recruiter
  - Intend to separate
  - Not eligible

In February 2014, C-Way delivered auto-approval capabilities to provide reenlistment decisions on S/EAOS/EOS applications more quickly for eligible ratings. This changed the monthly processing of reenlistment applications as described below.

- If you are in an, "open" rating or a "balanced" rating in an undermanned year group or an E6, you are eligible for reenlistment, and your application is submitted with correct data it will be auto-approved and returned immediately, and you can reenlist.
- If you are in a "competitive" rating or a balanced rating but not an undermanned year group, then your application will be processed through the monthly Rack and Stack process. Applications submitted in one month are processed in Rack and Stack the following month.
- For Nuclear ratings, all applications are reviewed by enlisted community managers on an ongoing basis throughout the processing month.
- If required data is missing (evaluations, Physical Fitness Assessment (PFA) data, security clearance etc.) the application will be denied with a note to your career counselor regarding what needs to be fixed. It is critical the Command Career Counselor reviews these notes to ensure Sailors are not disadvantaged in their opportunities for retention.
- Upon completion of the monthly process, Career Waypoints results will be available to command users via the Monthly report section of the Career Waypoint system.
- For additional guidance, see MILPERSMAN 1160-140, NAVADMIN 231/17, and your Career Counselor
  Or call My Navy Call Center: (833) 330-MNCC or (901) 874-MNCC; or askmncc@navy.mil

Targeted Reentry Program (TRP)

NAVADMIN 047/18 empowers COs with the ability to identify and recommend SELRES on active duty/Definite Recall (ACDU) and Full Time Support (FTS) enlisted personnel, who are the best and brightest, the option for expedited reentry to Active Duty in the Navy.

- *Golden Ticket* – Sailors are guaranteed an expedited return to ACDU within one year from separation from ACDU. Sailors who do not use their Golden Ticket within one year are automatically convert to a Silver Ticket for one additional year. Sailors must remain fully qualified.
- *Silver Ticket* – Sailors are afforded an expedited return to ACDU within two years from separation date. This opportunity is subject to Needs of the Navy (NOTN) and provided the Sailor remains fully qualified.

Upon completion of the monthly process, Career Waypoints results will be available to command users via the Monthly report section of the Career Waypoints system.

For additional guidance, see MILPERSMAN 1001-260, NAVADMIN 231/17, and your Career Counselor
Or call My Navy Call Center: (833) 330-MNCC or (901) 874-MNCC; or askmncc@navy.mil

AC/FTS TRANSFER:

15 Months	12 Months	9 Months	6 Months	Orders Received
Career Waypoint	Career Waypoint	Career Waypoint	Accept Orders	Screening
Exception Family Member	Exception Family Member	Medical/Dental	Reverse Sponsor	Obligate
MNA	MNA	MNA	Relocation (FFSC)	Bonus
Mil to Mil	Eval	SRB	SRB	
Family Care Plan				
Continuous Overseas Tours (COT)				
Overseas Tour Extension Incentive Program (OTEIP)				

SELRES TRANSFER:

12 Months	9 Months	6 Months	3 Months	Orders Received
MNA *(verify account access)*	MNA *(extend in current field)*	MNA *(apply for billets)*	MNA *(apply for billets)*	Sign Eval
Family Care Plan		Start Eval		
Mil to Mil		Reverse Sponsor		
		Incentives/EOS opportunities		

For additional assistance in transfer and relocation, go to the Military OneSource website: https://www.militaryonesource.mil/ and visit your Fleet and Family Support Center on base.

SEPARATING/RETIRE*:

18 -12 months	6 months	90 days	30 days
TAP*	MED/DEN	Copy of Records	Copy of Records
Complete DD 2648	Relocation	Official Record CD	PSD
Transition Planning	Relocation Services (FFSC)	Arrange Ceremony	MED/DEN
Annual Statement of Service History (ASOSH) *Reserve Only*	Reserve Affiliation	Request Leave / PTDY	DD 214*
	VA/DVA		

**Upon demobilization, SELRES will need Transition Assistance Program (TAP) and DD-214; DD-214 is not required for Reserve Retirements.*

PHYSICAL FITNESS:

Participate in a year-round physical fitness program to meet Navy fitness and BCA standards. Review and verify accuracy of PFA data in PRIMS within 60 days of the PFA cycle. (PRIMS is accessible through your BUPERS Online Account)

Height Weight If Required (AC BCA)

Last 2 PRT Cycles: Forearm Plank / Push-ups / Run/Swim/Cardio /

Overall Score /

List date (if) any PRT/BCA failure(s) over the last 5 years /

List if any Medical Waiver(s) /

For more information on Navy Fitness, visit: https://www.public.navy.mil/bupers-npc/support/21st_Century_Sailor/physical/Pages/default2.aspx

PROFESSIONAL MILITARY EDUCATION (E1/E2/E3)

(Resident and non-resident coursework designed to enhance a Sailor's general military professional knowledge and abilities)

EDUCATION: (Prior to considering any pursuit of off duty education or program enrollment call the Navy College Virtual Education Center (NCVEC) 877-838-1659 or Visit your overseas Navy College Office.)

Education Plan Completed (Navy College Office/NCVEC)

Current Education Level

Degree Goal

** Various degree options are available in the Advanced Education section. **

Goal: Date: AA/AS BA/BS Master
(Credits to earn a degree - AA/AS: 60 SH/90 QH, BA/BS: 120 SH/180, QH, Master /Doctorate: Variable based on program)

Number of current credits American Council on Education (ACE) recommended credits

Joint Service Transcripts (JST)

HS Transcripts College Transcripts

Date Degree Obtained: AA/AS BA/BS Master Doctorate

For entry into JST, have your College/University send official transcripts to:
Naval Education and Training Command N644
JST Operation Center
6490 Saufley Field Road
Pensacola, FL 32509
Email: JST@DODED.mil

VOLUNTARY EDUCATION: Links to study guides, exam preparations, and practice tests are located on the DANTES website https://www.dantes.doded.mil/

Academic skills NCPACE CLEP DSST

TA MGIB MGIB-SR Post 9/11 GIB

E1/E2/E3 REQUIRED NAVY PME:

Course Title	Course Location	CIN/CSE ID	Course Length	Date Completed
Foundational Leader Development Course [5]	Water front/ Flightline/ Various [4]	NELD-03	2.5 days	
Navy Military Training (Life Skills) (Pre-A School Delivery only) [6]	Command Delivered	A-500-1000	2 days	
Professional Military Knowledge Eligibility Exam (PMK-EE) for E4	Navy e-Learning	NETCPDC-PMK-EE-E4-1.0		
Ethics Training	Command Delivered			
Required General Military Training Topics For FY 2022 (Delivery determined by command discretion) [1]				
Sexual Assault Prevention and Response Awareness (SAPR)[3]	Command Delivered	CPPD-GMT-SAPRA-1.0		
Cyber Awareness Challenge	MNP	DOD-IAA-V16.0		
Counterintelligence Awareness and Reporting	Command Delivered/ MNP	DOD-CIAR-1.0		
Records Management	Command Delivered/MNP	DOR-RM-010-1.2		
Privacy Act	Command Delivered			
Suicide Prevention[3]	Command Delivered	CPPD-GMT-SAP-1.0		
Antiterrorism Level I [2]	Command Delivered/ MNP	CENSECFOR-AT-010-1.0		

1 - Verify GMT topics on the My Navy Portal (MNP) GMT webpage
2 - Personnel with less than 3 years of time-in-service must also complete Antiterrorism Level 1 training. For personnel with greater than 3 years of time-in-service, Antiterrorism Level 1 periodicity is now a triennial requirement and will be mandated for all hands in FY-22.
3 - The recommended method of delivery for SAPR and Suicide Prevention annual training is via face-to-face, small group facilitated discussions.
4 - See MNP Enlisted Leadership Development page: https://www.mnp.navy.mil/group/training-education-qualifications/enlisted-leader-development.
5 - Available for paygrades E3 and E4
6 - Required for delivery in "A" School for all ratings

E1/E2/E3 REQUIRED COMMUNITY PME:

Course Title	Course Location	CIN/CSE ID	Course Length	Date Completed
None				

E1/E2/E3 RECOMMENDED NAVY PME:

Course Title	Course Location	CIN/CSE ID	Course Length	Date Completed
Basic Military Requirements (NAVEDTRA 14325) (EDITION 1/1/2002)		NAVEDTRA 14325		
Professional Military Knowledge Eligibility Exam (PMK-EE) Study Material	Navy e-Learning	NETCPDC-PMK-EE-SM-1.0		
Military Requirements for Petty Officer Third and Second Class	Navy e-Learning	NRTC-NAVEDTRA-14504-MRFPO-TASC-1.0		
Introductory Enlisted Professional Military Education (IEPME)	Navy e-Learning	Military DON/ PME	18 hrs	
Block 1 Introductory EPME - Introduction	Navy e-Learning	NWC-IEPME-INTRO-B1	-	
Block 2 Introductory EPME - History and Traditions	Navy e-Learning	NWC-IEPME-INTRO-B2	3 hrs	
Block 3 Introductory EPME - Enlisted Professionalism	Navy e-Learning	NWC-IEPME-INTRO-B3	3 hrs	
Block 4 Introductory EPME - Policy and the Navy	Navy e-Learning	NWC-IEPME-INTRO-B4	3 hrs	
Block 5 Introductory EPME - Planning for Operations	Navy e-Learning	NWC-IEPME-INTRO-B5	3 hrs	
Block 6 Introductory EPME - Regional and Cultural Awareness	Navy e-Learning	NWC-IEPME-INTRO-B6	3 hrs	
Block 7 Introductory EPME - Technology in the Maritime Domain	Navy e-Learning	NWC-IEPME-INTRO-B7	3 hrs	
Block 8 Introductory EPME - Conclusion	Navy e-Learning	NWC-IEPME-INTRO-B82	-	
Cultural Awareness	Navy e-Learning	Foreign Language and Culture	45 hrs	
Navy Reserve Fundamentals for Active Duty Course	Navy e-Learning	NAVRESFOR-NRF-3.0	10 hrs	
Nutrition	Navy e-Learning	NMHCI2107V2.1	1 hour	
Personal Financial Management	Navy e-Learning	CPD-PFM-1.0	8 hrs	
PREVENT	Command Delivered	S-501-0150	24 hrs	
Recommended General Military Training Topics For FY 2022 (Delivery determined by command discretion) [1]				
Alcohol, Drug, and Tobacco Awareness	Command Delivered	CPPD-GMT-ADTA-1.0		
Combating Trafficking of Persons General Awareness	Command Delivered/ MNP	DOD-CTIP-3.0		
Domestic Violence Prevention and Reporting	Command Delivered	CPPD-GMT-DV-1.1		
Electromagnetic Maneuver Warfare	Command Delivered/ MNP	NAVIFOR-FEWC-EMW-01.01		
Energy Policy	Command Delivered	OPNAV-GMTE-1.0		
Equal Opportunity, Harassment, and Resolution Options	Command Delivered	CPPD-GMT-EOSH-1.0		
Hazing Policy and Prevention	Command Delivered	CPPD-GMT-HPP-1.0		
Operational Risk Management (ORM)	Command Delivered	CPPD-GMT-ORMTC-1.0		
Operations Security	Command Delivered/ MNP	NOST-USOPSEC-3.0		
Personal Financial Management	Command Delivered	CPPD-GMT-PFM-1.0		
Sexual Health and Responsibility	Command Delivered	CPPD-GMT-SHR-1.0		
Stress Management	Command Delivered	CPPD-GMT-SM-1.0		
Traumatic Brain Injury	Command Delivered			
Privacy Act	Command Delivered	DON-PRIV-2.0		
Antiterrorism Level I [2]	Command Delivered/ MNP	CENSECFOR-AT-010-1.0		
Tactical Combat Casualty Care All Service Member/Tier 1	Command Delivered	B-300-2010		
Financial Management [3]	Command Delivered			

1 - Verify GMT topics on MyNavy Portal GMT webpage
2 - Personnel with less than 3 years of time-in-service must also complete Antiterrorism Level 1 training. For personnel with greater than 3 years of time-in-service, Antiterrorism Level 1 periodicity is now a triennial requirement and will be mandated for all hands in FY-22.
3 - Does not have a mandatory periodicity but is required at career touch points per CNO WASHINGTON DC/191539ZJUL16.

E1/E2/E3 RECOMMENDED COMMUNITY PME:

Course Title	Course Location	CIN/CSE ID	Course Length	Date Completed
Safety Practices	Navy e-Learning	NIDA-93951101		
Submarine Hazardous material Inventory and Management Systems (SHIMS)	Navy e-Learning	CNET12723		
SS Craftsman Fundamentals	SOBT	DODUSNSLCSOBT_03158		
Test Cell Review of Basic Physics	MNP	CNATT-049-PHY-012-005-A0		
Introduction to Piping Systems	Navy e-Learning	CNET11443		
Packing, Gaskets, and Seals	Navy e-Learning	CNET11445		
Rotary Pumps	Navy e-Learning	CNET11449		
Variable-Stroke Pumps	Navy e-Learning	CNET11451		
Reciprocating Pumps	Navy e-Learning	CNET11453		
Nonpositive-Displacement Pumps	Navy e-Learning	CNET11455		

MILGEARS

MilGears (https://milgears.osd.mil/) has been developed to serve Sailors while they serve, as they transition, and beyond. Whether you're committed to completing a single enlistment term or plan to retire from the military, everyone gets out eventually. MilGears exists to help you plan in advance for that time by highlighting future possibilities and helping you visualize how to reach those goals. Tools on MilGears analyze your unique history - your military duties and training, civilian education and credentialing, and apprenticeships - to provide customized results.

Key features include:

- No PII is stored on the MilGears servers – it does not save or collect any of your information.
- The ability for you to save an encrypted file to save your progress and return to the tool at any time.
- Auto-filling of tools based on uploaded service history document (ETJ, JST, or VMET).
- An easy-to-read PDF summary of your military history that you can keep as a reference.

Of the several tools found on MilGears, the two most common that Sailors would use are the **Engage My Career Tool** and the **Quick Explorer Tool**.

ENGAGE MY CAREER TOOL

The Engage My Career (EMC) Tool, available from the MilGears home page, analyzes your unique history to provide customized results. The EMC Tool looks at what you've done in the military to date by guiding you through a series of questions that collect information such as: your rating, pay grade, duty station history, training, NECs, qualifications (applicable to Mariner careers), and civilian education or credentials. The EMC Tool then takes this information and helps you determine your best path forward by showing you the possible occupation options you may be eligible for based on your current experience.

Customized output includes:

- Civilian occupations that may be attainable or nearly attainable.
- Apprenticeships, certifications, and education that can help you fill training gaps or that could make you more competitive in the job market.
- How You Stack Up – a detailed view of how you compare to the typical requirements for civilian occupations and credentials.
- Next Steps – recommendations to fill gaps to enter an occupational field.

QUICK EXPLORER TOOL

The Quick Explorer Tool, available from the MilGears home page, allows Service members to explore occupations without uploading personal information.

The following areas are available for exploration:

- Credentials – explore pathways related to a specific credential such as a degree, a certification, a USMAP apprenticeship or a federal license.
- Career Goals – explore pathways based on career goals through job family, industry and more.
- Military Occupation – explore pathways by MOC to view ‘best-fit’ pathways based your military occupation. Pathways include academic, industry, apprenticeship, cross-rate opportunities, and post-service employment opportunities.
- Interests – answer a series of questions designed to discover your personal interests and connect them to career pathways.

NAVY PROFESSIONAL READING PROGRAM (PRP)

The purpose of the Chief of Naval Operations Professional Reading Program (CNO PRP), maintained by CNO PRP program managers at the U.S. Naval War College, is to facilitate the professional and personal development of all Sailors. For additional information on the CNO PRP visit https://www.navy.mil/CNO-Professional-Reading-Program/

READINESS

Visit https://www.navy.mil/CNO-Professional-Reading-Program/Readiness/ for more information.		
Foundational	**Advanced**	**Capstone**
Ghost Fleet – *Singer*	Matterhorn - *Marlantes*	Leaders Eat Last - *Sinek*
Guide to Maritime Strategy – *Holmes*	Red Star Over the Pacific - *Holmes & Yoshihara*	Mindset: Psych of Success - *Dweck*
Neptune's Inferno - *Hornfischer*	Seapower: Guide for 21st Century - *Till*	The Infinite Game - *Sinek*
Six Frigates – *Toll*	The Leader's Bookshelf - *Stavridis*	What is it Like to go to War - *Marlantes*

CAPABILITIES

Visit https://www.navy.mil/CNO-Professional-Reading-Program/Capabilities/ for more information.		
Foundational	**Advanced**	**Capstone**
AI Basics - *Taulli*	Fifth Domain: Cyber - *Clarke*	Deep Thinking: AI - *Kasparov*
Army of None - *Scharre*	Human Compatible - *Russell*	Four Global Forces - *Dobbs*
Burn-In - *Singer*	New Rules of War - *McFate*	Genius Weapons - *DelMonte*
The Future of War - *Freedman*	The Perfect Weapon - *Sanger*	Inevitable - *Kelly*
The Next 100 Years - *Friedman*		

CAPACITY

Visit https://www.navy.mil/CNO-Professional-Reading-Program/Capacity/ for more information.		
Foundational	**Advanced**	**Capstone**
Fearless-SEAL Team Six - *Blehm*	American Naval Thinking - *Haynes*	End of Grand Strategy - *Dombrowski*
One Nation Under Drones - *Jackson*	Fleet Tactics - *Hughes*	Our Robots Our Selves - *Mindell*
The Fleet at Flood Tide - *Hornfischer*	Just and Un-Just Wars - *Walzer*	Second Most Powerful Man - *O'Brien*
Tin Can Sailors - *Hornfischer*	Seapower - *Stavridis*	The Future of Violence - *Wittes*

SAILORS

Visit https://www.navy.mil/CNO-Professional-Reading-Program/Sailors/ for more information.		
Foundational	**Advanced**	**Capstone**
Dichotomy of Leadership - *Willink*	A Tactical Ethic - *Couch*	Fortune Favors Boldness - *Costello*
Ego is the Enemy - *Holiday*	Character Gap - *Miller*	No Pity - *Shapiro*
How to be an Anti-Racist - *Kendi*	Fed Up - *Hartley*	Road to Character - *Brooks*
Tiny Habits - *Fogg*	Military Ethics - *Lucas*	The Honest Truth about Dishonesty - *Aire*
We Can't Talk About That at Work - *Winters*	Sexual Minorities and Politics - *Pierceson*	The New Jim Crow - *Alexander*
	Start with Why - *Sinek*	

MCPON's Suggested Reading

Visit https://www.navy.mil/CNO-Professional-Reading-Program/MCPON-Suggested-Reading/ for more information.		
Master Chief Petty Officer of the Navy (MCPON) Russell Smith identified these 21 additional books as suggested reading.		
A Call to Conscience - *Carson, Shepard, Young*	Happiness Advantage - *Achor*	Starship Troopers - *Heinlein*
Blink: Power of Thinking - *Gladwell*	Jonathan L. Seagull - *Bach*	Team of Teams - *McChrystal, Collins, Silverman, Fussell*
Brave New World - *Huxley*	Only Women in the Room - *Benedict*	The Captain Class - *Walker*
Cannonball! - *Yates*	Overcome - *Redman*	The Good Shepherd - *Forester*
Class 11 - *Waters*	Perform Under Pressure - *Evans*	The Old Man's Trail - *Campbell*
Descent Into Darkness - *Raymer*	Run Silent, Run Deep - *Beach*	Tragedy at Honda Point - *Lockwood*
Duty: A Memoir - *Gates*	Shoot the Women First - *MacDonald*	We Die Alone - *Howarth*

Nearly 200 years ago, the Navy ordered its ships be outfitted with a reading list of 37 books in order to help train and educate Sailors. The Navy's leaders knew then what is still the case today: to outthink our competitors we must study and apply lessons we've learned from our past. Furthermore, it is critically important for our Navy to be a learning organization. And one of the very best ways to do that is to foster an environment where every Sailor deepens their level of understanding and learning.

That is why we launched an updated Chief of Naval Operations Professional Reading Program (CNO-PRP) reading list, with a motto of "Read Well to Lead Well."

E1/E2/E3 RECOMMENDED COMMUNITY READING

Title	Completed
DOE Fundamentals Handbook, Chemistry, Volume 1 of 2 *DOE-HDBK-1015/1-93*	
DOE Fundamentals Handbook, Classical Physics *DOE-HDBK-1010-92*	
DOE Fundamentals Handbook, Mathematics Volume 1 of 2 *DOE-HDBK-1014/1-92*	
DOE Fundamentals Handbook, Thermodynamics, Heat Transfer, and Fluid Flow, Volume 1 of 3 *DOE-HDBK-1012/1-92*	

ALL PAYGRADES
VOLUNTARY EDUCATION

Note: Prior to considering any pursuit of off duty education or program enrollment contact the Navy College Virtual Education Center (NCVEC) or visit your Overseas Navy College Office.

You must complete the Tuition Assistance Training before your first course will be approved.

Complete the online courses at the Navy College Website: http://www.navycollege.navy.mil/

How do I get started?

You already have. All your training up to this point is part of your Machinist's Mate - Nuclear - Submarine Roadmap. Now that you have made the first steps you will need to sit down and formulate a plan. This plan will work best if you start out discussing your options with your Leading Chief Petty Officer, Leading Petty Officer, Mentor, or Career Counselor. They will help you understand all of the basics. Then your next step is to contact the Navy College Virtual Education Center or visit your Overseas Navy College Office. Then your counselors will be able to help you formalize your plan and make sure that it makes sense for both you and the Navy. To aid you in your conversation with these professionals, here are a few questions that you may want to ask.

What credits do you have? What non-college courses have you taken? Where do you want to go? What field of study, or what kind of degree? What program will help me get there: Traditional or Online? What are my next steps: Transfer credits, take exams, have experience evaluated, or sign up for new courses?

RECOMMENDED OCCUPATIONAL-RELATED ASSOCIATE'S DEGREE FOR MMN-SS

Recommended Associates' degrees for the Fireman
Nuclear Power Technology
Power Plant Technology
Industrial Management Technology
Quality Control and Safety
General and Liberal Studies
Management

RECOMMENDED OCCUPATIONAL-RELATED BACCALAUREATE/MASTERS DEGREE FOR MMN-SS

Recommended Bachelors/Masters degrees for the Fireman
Nuclear Power Technology
Power Plant Technology
Industrial Management Technology
Quality Control and Safety
General and Liberal Studies
Management

GENERAL INFORMATION ON VOLUNTARY EDUCATION

The Navy College Program & Web Page:

The Navy College Program (NCP) provides opportunities to Sailors to earn college degrees by providing academic credit for Navy training, work experience, and off-duty education. The NCP mission is to enable Sailors to obtain a college degree while on active duty. In support of the four R's - Recruiting, Readiness, Retention, and Respect - the NCP signifies Navy's commitment to education by improving enlistment appeal; demonstrating Navy service and achieving a college degree are compatible; helping Sailors apply themselves to new situations and challenges and better preparing them for advancement; building up Sailors' self-image; and producing higher quality Sailors.

- More information is available online at: https://www.navycollege.navy.mil

Tuition Assistance (TA):

NAVADMIN 114/19 limit changes as of 1 October 2019: TA provides funds for eligible active-duty personnel to attend approved educational institutions on an off-duty basis to earn a high school diploma, vocational/technical certificate, or college degree. TA pays for tuition. TA will pay for the following amount per career: 120 semester hours, or 180-quarter hours or 1800 clock hours or a combination of semester, quarter and clock hours. TA will pay the following amounts per fiscal year: 12 semester hours, not to exceed $250/credit for semester hours or 18-quarter hours not-to-exceed $166.67/credit for quarter hours or, 180 clock hours not-to-exceed $16.67/clock hours or a combination of semester, quarter and clock hours.

- More information is available online at: https://www.navycollege.navy.mil

Joint Service Transcripts (JST)

JSTs are official military transcripts which are used by colleges to validate your actual credited training. Every Sailor has a transcript already and access to it is free.

- More information is available online at: https://jst.doded.mil/

The American Council on Education (ACE)

ACE has reviewed every course listed in the OCCUPATIONAL Roadmap and determined what type of collegiate level credit is recommended. The ACE identifier, listed with each course, is a source to validate the information and to check for changes as they occur.

- Updates can be found at http://www.acenet.edu/news-room/Pages/Military-Guide-Online.aspx.

Vocational Certificates

Vocational Certificates are available from most community colleges. Most of your military training can be counted toward their degree programs, but they will still require residency credits and approximately 40-75 credit hours. These certificates can be as valuable as the apprenticeship program in the civilian work force.

College credits by Testing CLEP, DSST

Testing can replace the requirement to attend most of the college courses listed in the Occupational Roadmap. Base Education Centers offer CLEP and DSST exams for active duty military at no cost. They also offer a comprehensive list of "credit-by-exam" tests. Additionally, many of the tests have study guides available. These tests are available at the base education center or through the base library system. For specific testing locations visit the DANTES website.

- Navy College Program: https://www.navycollege.navy.mil/information-for-sailors/pre-college-testing-and-college-credit.htm
- DANTES: http://www.dantes.doded.mil/examinations/earn-college-credit/earn-college-credit.html

College Entrance Exams Testing ACT, SAT

The ACT and SAT are both standardized tests that help colleges evaluate candidates. Many colleges require that students submit test results as part of the admission application process. Since Sailors are considered transfer students, these tests are not generally required for admission. However, some Sailors must take the tests to enter specific military programs.

- Navy College Program (ACT SAT): http://www.navycollege.navy.mil/information-for-sailors/college-entrance-exams.htm
- DANTES (ACT SAT): http://www.dantes.doded.mil/examinations/college-admissions/act.html

SAMPLE DEGREE PLAN

Thomas Edison State College, ASAST – Nuclear Engineering Technology
(Total 60 Semester Hours Minimum)

Subject Area/Category	Credits
I. General Education Requirements	30
A. English Composition	6
B. Humanities	6
C. Social Sciences	6
D. Natural Sciences and Mathematics	12
Intermediate and pre-calculus mathematics or above*	(6)
General physics or general chemistry	(6)
II. Area of Study: Nuclear Engineering Technology	21
A. Nuclear Physics	3
B. Thermodynamics or Heat Transfer	3
C. Fluid Mechanics	3
D. Reactors	6
▪ Introduction to Nuclear Engineering Technology ▪ Reactor Engineering ▪ Reactor Systems or Reactor Operations ▪ Reactor Theory and Design	
E. Radiation Safety	3
▪ Radiation Protection ▪ Health Physics ▪ Nuclear Reactor Safety ▪ Radiological, Reactor and Environmental Safety	
F. Nuclear Engineering Technology Electives	3
▪ Radiation Biology ▪ Radiochemistry ▪ Nuclear Power Plant Instrumentation ▪ Nuclear Power Generation ▪ Radiation Effects ▪ Nuclear Reactor Materials ▪ Radiation and Reactor Systems ▪ Courses listed in sections A, B, C, D and E	
III. Free Electives	9
A. Computer Requirement	3
B. Free Electives	6
Total	60 credits

*Some areas of study require mathematics at the level of pre-calculus algebra and calculus.

Note 1: Courses listed in Area of Study are offered as a guide. Other courses may also be considered appropriate for this option.

Note 2: Corollary Requirements:

- 6 credits of Precalculus Algebra or above
- One full year of General Physics
- 3 credits of Computer Programming

Students may check the appropriateness of other courses by contacting the Advisement Center.

SAMPLE DEGREE PLAN

Bachelor of Science in Nuclear Engineering Technology

Excelsior College

(120 credit hours)

Subject Area/Category	Credits
Arts and Sciences Component:	60
Communications (must include 3-credit written English):	9
Ethics:	3
Social Sciences/History:	6
Humanities and Social Sciences/History Electives:	6
Mathematics and Natural Sciences:	24
Math- at least 12 credits at a level of	
College Algebra and above including	
Calculus I and Calculus II	
Natural Science--must include	
Chemistry with Lab,	
Physics I with at least one lab	
Physics II with at least one lab,	
Atomic Physics	
Nuclear physics and thermodynamics	
Arts and Science Electives:	12
Nuclear Engineering Component:	48
Core Requirements	
Electrical Theory	
Computer Applications	
Materials	
Nuclear Materials	
Health Physics/ Radiation Protection	
Plant Systems Overview	
Reactor Core Fundamentals	
Fluids	
Heat Transfer	
Integrated Technology Assessment	
Nuclear Engineering Technology Electives	16
Free Elective Component:	16
Information Literacy (Required)	1

REFERENCES

Navy Enlisted Learning and Development Programs:

- Learning and Development Roadmap for Enlisted Sailors, OPNAVINST 1500.77(series)
- Navy Enlisted Retention and Career Development Program, OPNAVINST 1040.11(series)
- Career Counselor Handbook, NAVPERS 15878L
- Command Sponsor and Indoctrination Programs OPNAVINST 1740.3(series) (Sponsor assigned within 10 days of orders received / Indoctrination completed as soon as possible and practicable but NLT 90 days)
- Command Sponsorship of Dependents at Overseas Duty Stations MILPERSMAN 1300-150 to 1300-210
- Navy Enlisted Warfare Qualification Programs OPNAVINST 1414.9 (series)
- Master Training Specialists (MTS) Program NETCINST 1500.2(series)
- Command Master Chief Program OPNAVINST 1306.2 (series)

Reenlistments and Extensions:

- Agreement of Enlisted Naval Reservist, and Fleet Reservists Inductees to Remain on Active Duty MILPERSMAN 1160-060
- Extension of Enlistments MILPERSMAN 1160-040
- Overseas Tour Extension Incentives Program (OTEIP) MILPERSMAN 1306-300
- Consecutive Overseas Tours (COT) Leave Travel Entitlement Policy MILPERSMAN 1050-410
- Career WayPoints - Reenlistment MILPERSMAN 1160-140
- Reenlistment Ceremony MILPERSMAN 1160-020
- Leave of Military Personnel MILPERSMAN 1050-040
- Required Counseling Upon Enlistment and Reenlistment MILPERSMAN 1160-031
- Selective Reenlistment Bonus (Use Latest SRB NAVADMIN)
- Selective Training and Reenlistment (STAR) Program MILPERSMAN 1160-100
- Assignment to School as a Reenlistment Incentive MILPERSMAN 1306-1006
- Reserve Enlisted Incentives RESPERSMAN 1100-020 and current ALNAVRESFOR Message
- Reenlistments and Extensions for Sailors in a Drilling Status RESPERSMAN 1160-010
- Satisfactory Participation in the Navy Reserve RESPERSMAN 1001-010

Fleet Reserve and Retirements:

- Casualties and Survivor Benefits (SBP) MILPERSMAN 1770-010 to 1770-280 OPNAVINST 1750.5(Series)
- Disability Retirement MILPERSMAN 1850-010 to 1850-040
- Fleet Reserve and Retirement MILPERSMAN 1800-010 to 1800-070
- Privately Owned Vehicle (POV) Shipment Entitlement Policy and Household Goods (HHG) Shipment and Storage Entitlement Policy MILPERSMAN 4050-010 to 4050-020
- Permissive Temporary Duty (PTDY) Authorization for Job/House Hunting MILPERSMAN 1320-220
- Transition Assistance Program (TAP) OPNAVINST 1900.2(series) (Initiate a DD-2648E-1 NLT 90 Days Prior to Separation and attend workshop 12 months prior to separation/Fleet Reserve/Retirement date)

Enlisted Administrative Separations:

- Separation by Reason of Alcohol Rehabilitation Failure MILPERSMAN 1910-152
- Separation by Reason of Misconduct -Drug Abuse MILPERSMAN 1910-146
- Separation by Reason of Convenience of the Government -Early release to further education MILPERSMAN 1910-108
- Administrative Separation (ADSEP) Policy and General Information MILPERSMAN 1910-010 to 1910-812
- Fraudulent Enlistment MILPERSMAN 1910-134
- High Year Tenure (HYT) MILPERSMAN 1160-120
- Misconduct (various reasons) MILPERSMAN 1910-138/140/142
- Department of the Navy (DON) Policy on Parenthood and Pregnancy SECNAVINST 1000.10(series) & MILPERSMAN 1910-124
- Separation by Reason of Convenience of the Government -Personality Disorder MILPERSMAN 1910-122
- Separation by Reason of Physical Fitness Assessment (PA) Failure MILPERSMAN 1910-170
- Separation by Reason of Misconduct - Commission of a Serious Offense MILPERSMAN 1910-142
- Separation by Reason of Unsatisfactory Performance MILPERSMAN 1910-156

Advancement & Service Schools:

- Advancement Manual for Enlisted Personnel of the U.S. Navy and U.S. Navy Reserve BUPERSINST 1430.16(series)
- Accelerated Advancement of Recruit Training Class "A" School Graduates, and Ceremonial Guard MILPERSMAN 1430-010
- Enlisted to Officer Commissioning Program Application & Administration Manual OPNAVINST 1420.1(series)
- Service Schools MILPERSMAN 1306-600/602/604/608
- Class "A" School & Rating Entry Requirements MILPERSMAN 1306-618
- Retesting with Armed Forces Classification Test (AFCT) version of the Armed Services Vocational Aptitude Battery (ASVAB) MILPERSMAN 1236-010
- Professional Apprenticeship Tracks Program (PACT) NAVADMIN 318/07
- Prior Service Reenlistment Eligibility – Reserve (PRISE-R) MILPERSMAN 1133-061

Education Advancement & Service Schools:

- Joint Chiefs Professional Military Education (PME) Manual 1805.01
- Voluntary Education (VOLED) for Navy Sailors OPNAVINST 1560.9(series)
- Navy Voluntary Education Program NETCINST 1560.3(series)
- Navy Credentialing Programs OPNAVINST 1540.56
- Administration of the United Services Military Apprenticeship Programs (USMAP) OPNAVINST 1560.10(series)

Diversity, Equity and Inclusion, and Anti-Extremism:

- Diversity, Equity and Inclusion: https://diversity.defense.gov
- DOD Diversity and inclusion Management Program DODI 1020.05(series)

Other Quick References:

- Awards Manual (SECNAVINST 1650.1(Series)
- Change in Rating MILPERSMAN 1440-010 to 1440-040
- Department of the Navy Correspondence Manual (SECNAV M-5216.5
- Navy Alcohol and Drug Abuse Prevention and Control OPNAVINST 5350.4(series)
- Exchange of Duty (SWAPS) MILPERSMAN 1306-700
- First-Term Personnel Assignment Policy MILPERSMAN 1306-126
- Individual Augmentation (IA) Policy and Procedures OPNAVINST 1001.24(series)
- Military Couple and Single Parent Assignment Policy MILPERSMAN 1300-1000
- Military Pay MILPERSMAN 7220-010 to 7220-410
- Navy Performance Evaluation System BUPERSINST 1610.10 (Series)
- Overseas Extensions MILPERSMAN 1300-310
- Physical Readiness Program OPNAVINST 6110.1(series) / MILPERSMAN 6100-6199
- Reassignment for Humanitarian Reasons (HUMS) MILPERSMAN 1300-500
- Standardized Policy and Procedures for the Active Duty for Operational Support (ADOS) Programs OPNAVINST 1001.20 (series)
- Operational Risk Management OPNAVINST 3500.39C
- Personnel Qualification Standards (PQS) Catalog NAVEDTRA 43100-6M
- Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards NAVPERS 18068F Volume 1 & 2