

Please inform the Registrar's Office if you choose an alternate option.
 Otherwise your Academic Advisement Report will be incorrect.

STUDENTS ENTERING IN 2020
MECHANICAL ENGINEERING MAJOR
THIRD ASSISTANT ENGINEER'S LICENSE OPTION
DIVISIONS 3&4
CURRICULUM

5/4/20
 Subject to Change

Total Units: 162

THIRD ASSISTANT ENGINEER'S LICENSE COURSES ARE BOLDED. ADDITIONAL UNITS MUST BE ADDED TO TOTAL FOR EACH SEMESTER.

| <u>FALL 2020</u> | | <u>SPRING 2021</u> | | <u>SUMMER CRUISE 2021</u> | |
|---|-------------|--|-------------|----------------------------------|-------------|
| Humanities Elective (Area C2-Lower Div) | 3.0 | DL 105 Marine Survival▶ | 1.0 | CRU 150 Sea Training I (Engine)▶ | 8.0 |
| CHE 110 General Chemistry (Area B1) | 3.0 | DL 105L Marine Survival Lab▶ | 1.0 | EPO 220 Diesel Engineering I | 2.0 |
| CHE 110L General Chemistry Lab (Area B3) | 1.0 | DL 105X USCG Lifeboatman's Exam | 0.0 | Total | 10.0 |
| EGL 100 English Composition (Area A2) "G4" | 3.0 | EGL 220 Critical Thinking | 3.0 | | |
| EGL 120 Technical Communication* (Area A1) "G4" | 3.0 | [Critical Thinking Elective] (Area A3) "G4" | | | |
| ENG 110 Introduction to Engineering and Technology* | 1.0 | EPO 110 Plant Operations I▶ | 1.0 | | |
| FF 200 Basic/Advanced Marine Firefighting▶ | 0.0 | EPO 125 Introduction to Marine Engineering | 3.0 | | |
| MTH 210 Calculus I (Area B4) "G4" | 4.0 | EPO 213 Welding Lab▶ | 1.0 | | |
| PE 101 Swim Competency Exam | 0.0 | MTH 211 Calculus II (Area B4) | 4.0 | | |
| PE 102 Beginning/Intermediate Swimming | (0.5) | NAU 104 Shipboard Security and Responsibility▶ | 1.0 | | |
| Total | 18.0 | PHY 200 Engineering Physics I (Area B1) | 3.0 | | |
| | | PHY 200L Engineering Physics I Lab (Area B3) | 1.0 | | |
| | | Total | 19.0 | | |

| <u>FALL 2021</u> | | <u>SPRING 2022</u> | | <u>SUMMER CRUISE 2022</u> | |
|--|-------------|--|-------------|---------------------------|------------|
| ENG 210 Engineering Computer Programming | 2.0 | ENG 250 Electrical Circuits and Electronics▶* | 3.0 | CRU 250 Sea Training II | 8.0 |
| EPO 210 Plant Operations II▶ | 1.0 | ENG 250L Electrical Circuits and Electronics Lab▶* | 1.0 | Total | 8.0 |
| EPO 215 Manufacturing Processes I▶ | 2.0 | EPO 214 Boilers▶ | 3.0 | | |
| ME 220 Computer Aided Engineering▶* | 3.0 | EPO 230 Steam Plant System Operations▶ | 1.0 | | |
| ME 230 Engineering Materials* | 3.0 | ME 240 Engineering Thermodynamics* | 3.0 | | |
| ME 232 Engineering Statics* | 4.0 | ME 330 Engineering Dynamics* | 3.0 | | |
| MTH 212 Calculus III (Area B4) | 4.0 | ME 332 Mechanics of Materials* | 3.0 | | |
| PHY 205 Engineering Physics II (Area B1) | | MTH 215 Differential Equations (Area B4) | 4.0 | | |
| Total | 19.0 | Total | 17.0 | | |

| <u>FALL 2022</u> | | <u>SPRING 2023</u> | | <u>SUMMER CRUISE 2023</u> | |
|--|-------------|---|-------------|------------------------------------|------------|
| Life Science Elective (Area B2) | 3.0 | EGL 300 Advanced Writing | (3.0) | CRU 350 Sea Training III (Engine)▶ | 8.0 |
| EPO 235 Steam Plant Watch Team Management▶ | 1.0 | EPO 310 Plant Operations III▶ | 1.0 | Total | 8.0 |
| EPO 312 Turbines▶ | 3.0 | EPO 343 Refrigeration & A/C▶ | 1.0 | | |
| EPO 322 Diesel Engineering II/Simulator | 1.0 | ME 339 Material/Mechanical Lab* | 2.0 | | |
| EPO 322L Diesel Engineering II/Simulator Lab▶ | 1.0 | ME 344 Heat Transfer* | 3.0 | | |
| ME 340 Engineering Fluid Mechanics* | 3.0 | ME 392 Mechanical Design* | 3.0 | | |
| ME 350 Electromechanical Machinery* | 3.0 | ME 460 Automatic Feedback Control▶* | 2.0 | | |
| ME 350L Electromechanical Machinery Lab▶* | 1.0 | ME 460L Automatic Feedback Control Lab* | 1.0 | | |
| ME 360 Instrumentation and Measurement Systems* | 2.0 | ME 490 Engineering Design Process* | 3.0 | | |
| ME 360L Instr. and Measurement Systems Lab* | 1.0 | STEM 1 Stem Course (See Box)* | 3.0 | | |
| Total | 13.0 | Total | 17.0 | | |

| <u>FALL 2023</u> | | <u>SPRING 2024</u> | |
|---|-------------|--|-------------|
| American Institutions I Elective (Area D-Lower Div) | 3.0 | Humanities Elective (Area C-Upper Div) | 3.0 |
| Social Science Elective (Area D-Lower Div) | 3.0 | EPO 217 Shipboard Medical▶ | 1.0 |
| ENG 430 Naval Architecture▶* | 3.0 | GOV 200 American Government | 3.0 |
| ME 349 Fluid/Thermal Lab* | 2.0 | [American Institutions II Elective] (Area D-Lower Div) | |
| ME 394 Fluid/Thermal Design* | 3.0 | HUM 310 Engineering Ethics (Area C2-Upper Div) | 3.0 |
| ME 492 Project Design I* | 2.0 | ME 429 Manufacturing Processes Lab* | 1.0 |
| ME 492L Project Design I Lab* | 1.0 | ME 494 Project Design II* | 2.0 |
| STEM 2 Stem Course (See Box)* | 3.0 | ME 494L Project Design II Lab* | 1.0 |
| Total | 17.0 | STEM 3 Stem Course (See Box)* | 3.0 |
| | | Total | 16.0 |

**THIRD ASSISTANT ENGINEER'S/OICEW LICENSE
 REQUIRED FOR GRADUATION**

CSU Writing Proficiency Requirements may be met by passing the Graduate Writing Exam, or passing EGL 300 Advanced Writing.

"G4" "Golden 4" Courses (Must receive a "C-" or higher)
 ▶ STCW Courses (Must receive a "C-" or higher, or "CR")
 * Courses in Major (CGPA = 2.0 is required)

STEM COURSES

Energy Design Stem
 1 - ME 440 Advanced Fluids & Thermodynamics (Spring 2023)*
 2 - ME 442 Heating, Ventilation, and A/C Design (Fall 2023)*
 3 - ME 444 Energy Systems Design (Spring 2024)*

Mechanical Design Stem
 1 - ME 436 Mechatronic System Design (Spring 2023)*
 2 - ME 430 Mechanical Vibrations (Fall 2023)*
 3 - ME 432 Machinery Design (Spring 2024)*