

# Bachelor of Science in Naval Architecture & Marine Engineering

# BSNAME

## Course Description

The design, construction and maintenance of ships, boats and related equipment are learned in this program. It also involves formulation and damage control rules and the approval and certification of ship designs to meet statutory and non-statutory requirements. As the Philippines is ranked 4th worldwide in ship building, Naval Architecture is gaining popularity among students planning to make a career in the maritime industry.

Course Duration: The BSNAME course covers five (5) curricular years of academic studies.

## Curriculum

### FIRST YEAR

| First Trimester |                                   |                 |             |               |         | Second Trimester |                                 |             |          |           |            |
|-----------------|-----------------------------------|-----------------|-------------|---------------|---------|------------------|---------------------------------|-------------|----------|-----------|------------|
| COURSE CODE     | DESCRIPTION                       | HOURS           |             |               | PREREQ. | CORSE CODE       | DESCRIPTION                     | HOURS       |          |           | PREREQ.    |
|                 |                                   | LEC             | LAB         | UNITS         |         |                  |                                 | LEC         | LAB      | UNITS     |            |
| DRAW 112L6      | Engineering Drawing               | 0               | 9           | 2             |         | NGEC 2 123       | Reading in Philippines History  | 4.5         | 0        | 3         |            |
| CHEM 114L3      | Chemistry for Engineers           | 4.5             | 4.5         | 4             |         | MATH 123         | Calculus 1                      | 4.5         | 0        | 3         |            |
| NGEC 6 113      | Art Appreciation                  | 4.5             | 0           | 3             |         | NGEC 3 123       | The Contemporary World          | 4.5         | 0        | 3         |            |
| NGEC 1 113      | Understanding the Self            | 4.5             | 0           | 3             |         | NGEC 4 123       | Mathematics in the Modern World | 4.5         | 0        | 3         | NGEC 9 113 |
| MARENV 113      | Protection of Marine Environment  | 4.5             | 0           | 3             |         | SOCSCI 123       | Life and Work of Rizal          | 4.5         | 0        | 3         |            |
| NGEC 9 113      | Math, Science & Technology        | 4.5             | 0           | 3             |         | NGEC 8 123       | Ethics                          | 4.5         | 0        | 3         |            |
| PE 112          | Basic Swimming                    | 0               | 3           | 2             |         | PE 122           | Advanced Swimming               | 0           | 3        | 2         | PE 112     |
| NSTP 1 113      | Civil Welfare Training Services 1 | (4.5)           | 0           | (3)           |         |                  | <b>Total</b>                    | <b>27.0</b> | <b>2</b> | <b>20</b> |            |
|                 | <b>Total</b>                      | <b>22.5 (3)</b> | <b>16.5</b> | <b>20 (3)</b> |         |                  |                                 |             |          |           |            |

### Third Trimester

| COURSE CODE | DESCRIPTION   | HOURS           |            |               | PREREQ.  |
|-------------|---|-----------------|------------|---------------|----------|
|             |   | LEC             | LAB        | UNITS         |          |
| ICT 132L3   | Software Application & Network System used in Seagoing Ship | 1.5             | 4.5        | 2             |          |
| MATH 133    | Calculus 2  | 4.5             | 0          | 3             | MATH 123 |
| NGEC 5 133  | Purposive Communication                                     | 4.5             | 0          | 3             |          |
| NGEC 10 133 | Social Science & Philosophy                                 | 4.5             | 0          | 3             |          |
| NGEC 11 133 | Art & Humanities  | 4.5             | 0          | 3             |          |
| NGEC 7 133  | Science, Technology & Society                               | 4.5             | 0          | 3             |          |
| PE 132      | Combative & Team Sports                                     | 0               | 3          | 2             | PE 122   |
| NSTP 2 133  | Civil Welfare Training Services 2                           | (4.5)           | 0          | (3)           | NSTP 113 |
|             | <b>Total</b>  | <b>24.0 (3)</b> | <b>7.5</b> | <b>19 (3)</b> |          |

### SECOND YEAR

| First Trimester |   |             |             |           |                                    | Second Trimester |                                  |           |             |           |                      |
|-----------------|---|-------------|-------------|-----------|------------------------------------|------------------|----------------------------------|-----------|-------------|-----------|----------------------|
| COURSE CODE     | DESCRIPTION                                       | HOURS       |             |           | PREREQ.                            | COURSE CODE      | DESCRIPTION                      | HOURS     |             |           | PREREQ.              |
|                 |   | LEC         | LAB         | UNITS     |                                    |                  |                                  | LEC       | LAB         | UNITS     |                      |
| ELEC 213        | Welding Technology                                | 4.5         | 0           | 3         |                                    | EMAT 223         | Engineering Materials            | 4.5       | 0           | 3         |                      |
| MATH 213        | Differential Equation                             | 4.5         | 0           | 3         | MATH 133                           | MATH 223         | Advanced Mathematics             | 4.5       | 0           | 3         | MATH 213             |
| SHOP 213L3      | Workshop Theory & Practices                       | 3           | 4.5         | 3         | DRAW 112L6                         | EE 223L3         | Basic Electrical Engineering     | 3         | 4.5         | 3         | PHYS 214L3           |
| NA214L3         | Intro. to Naval Architecture & Marine Engineering | 4.5         | 4.5         | 4         |                                    | DRAW 223L6       | Computer Aided Drafting          | 0         | 6           | 2         | NA 214L3             |
| PHYS 214L3      | Physics for Engineers                             | 4.5         | 4.5         | 4         | MATH 123/ Co-requisite of MATH 133 | ITE 134L9        | Computer Programming Fundamental | 0         | 3           | 1         | ICT 132L3            |
| PE 212          | Math, Science & Technology                        | 4.5         | 0           | 3         |                                    | THERMO 223       | Thermodynamics 1                 | 4.5       | 0           | 3         | MATH 113/ PHYS 214L3 |
| PE 112          | Individual & Dual Sport                           | 0           | 3           | 2         | PE132                              | MECH 223         | Statics of Rigid Bodies          | 4.5       | 0           | 3         | MATH 113/ PHYS 214L3 |
|                 | <b>Total</b>                                      | <b>21.0</b> | <b>16.5</b> | <b>19</b> |                                    |                  | <b>Total</b>                     | <b>21</b> | <b>13.5</b> | <b>18</b> |                      |

### Third Trimester

| COURSE CODE | DESCRIPTION   | HOURS     |           |           | PREREQ.    |
|-------------|---|-----------|-----------|-----------|------------|
|             |   | LEC       | LAB       | UNITS     |            |
| MarE 234L3  | Marine Engineering 1 for NAME                               | 4.5       | 4.5       | 4         | EMAT 223   |
| SOC SCI 233 | Gen. Psychology w/ Padam & STD Prevention & Family Planning | 4.5       | 0         | 3         |            |
| ELEC 233L3  | Computer Aided Design & Construction (Maxsurf Software)     | 3         | 4.5       | 3         | NA214L3    |
| MGMT 233    | Engineering Management                                      | 4.5       | 0         | 3         |            |
| THERMO 233  | Thermodynamics 2  | 4.5       | 0         | 3         | THERMO 223 |
| MECH 232    | Dynamics of Rigid Bodies                                    | 3         | 0         | 2         | MECH 223   |
|             | <b>Total</b>  | <b>24</b> | <b>12</b> | <b>18</b> |            |

### THIRD YEAR

| First Trimester |                                |             |          |           |                    | Second Trimester |                                   |             |             |           |                |
|-----------------|--------------------------------|-------------|----------|-----------|--------------------|------------------|-----------------------------------|-------------|-------------|-----------|----------------|
| COURSE CODE     | DESCRIPTION                    | HOURS       |          |           | PREREQ.            | COURSE CODE      | DESCRIPTION                       | HOURS       |             |           | PREREQ.        |
|                 |                                | LEC         | LAB      | UNITS     |                    |                  |                                   | LEC         | LAB         | UNITS     |                |
| Eng'g Eco 313   | Engineering Economics          | 4.5         | 0        | 3         |                    | NA 324L3         | Intact Stability                  | 4.5         | 4.5         | 4         | NA 314L3       |
| FLUID MECH 313  | Fluid Mechanics                | 4.5         | 0        | 3         | THERMO 233         | MarE 325L3       | Power Plant Engineering 1         | 6           | 4.5         | 5         | FLUID MECH 313 |
| MECH 313        | Mechanics of Deformable Bodies | 4.5         | 0        | 3         | MECH 223           | KINEMATICS 323L4 | Kinematics & Dynamics of Machines | 3           | 4.5         | 3         | MECH 313       |
| STRUC 313       | Structural Theory              | 4.5         | 0        | 3         |                    | MarE 324L3       | Marine Engineering 2 for NAME     | 4.5         | 4.5         | 4         | MarE 234L3     |
| EE 314L3        | DC & AC Machinery              | 4.5         | 4.5      | 4         | EE 223L3           | MarE 3233        | Marine Auxiliary System           | 4.5         | 0           | 3         | MarE 234L3     |
| NA 314L3        | Ship Hydrostatics              | 4.5         | 4.5      | 4         | NA214L3 / MATH 223 |                  | <b>Total</b>                      | <b>22.5</b> | <b>18.0</b> | <b>19</b> |                |
|                 | <b>Total</b>                   | <b>27.0</b> | <b>9</b> | <b>20</b> |                    |                  |                                   |             |             |           |                |

### Third Trimester

| COURSE CODE   | DESCRIPTION                         | HOURS     |             |           | PREREQ.              |
|---------------|-------------------------------------|-----------|-------------|-----------|----------------------|
|               |                                     | LEC       | LAB         | UNITS     |                      |
| NA 335L6      | Damage Stability                    | 3.5       | 9           | 5         | NA 324L3             |
| ELECTRO 333L3 | Basic Electronics                   | 3         | 4.5         | 3         | EE 314L3             |
| NA 334L3      | Ship Resistance                     | 4.5       | 4.5         | 4         | FLUID MECH 313       |
| NA 335L6B     | Ship Structural Analysis and Design | 4.5       | 9           | 5         | NA 324L3 / STRUC 313 |
| RESEARCH 333  | Method of Research for NAME         | 4.5       | 0           | 3         |                      |
|               | <b>Total</b>                        | <b>20</b> | <b>28.0</b> | <b>20</b> |                      |

### FOURTH YEAR

| First Trimester |                 |          |           |          |         | Second Trimester |                                 |           |           |           |                     |
|-----------------|-----------------|----------|-----------|----------|---------|------------------|---------------------------------|-----------|-----------|-----------|---------------------|
| COURSE CODE     | DESCRIPTION     | HOURS    |           |          | PREREQ. | COURSE CODE      | DESCRIPTION                     | HOURS     |           |           | PREREQ.             |
|                 |                 | LEC      | LAB       | UNITS    |         |                  |                                 | LEC       | LAB       | UNITS     |                     |
| PRAC 419        | Practicum / OJT | 0        | 27        | 9        |         | NA 423L3A        | Shipyard Processes & Management | 3         | 4.5       | 3         | NA 214L3            |
|                 | <b>Total</b>    | <b>0</b> | <b>27</b> | <b>9</b> |         | NA 423           | Contracts and Specifications    | 4.5       | 0         | 3         | FLUID MECH 313      |
|                 |                 |          |           |          |         | NA 423L3 B       | Marine Inspections and Survey   | 3         | 4.5       | 3         | MECH 313            |
|                 |                 |          |           |          |         | NA 425L6         | Ship Design I (Thesis Part 1)   | 3         | 13.5      | 5         | NA335L6B / NA 334L3 |
|                 |                 |          |           |          |         | MarE 424L3       | Ship Propulsion                 | 4.5       | 4.5       | 4         | NA 334L3            |
|                 |                 |          |           |          |         |                  | <b>Total</b>                    | <b>18</b> | <b>27</b> | <b>18</b> |                     |

### Third Trimester

| COURSE CODE | DESCRIPTION                         | HOURS       |          |           | PREREQ. |
|-------------|-------------------------------------|-------------|----------|-----------|---------|
|             |                                     | LEC         | LAB      | UNITS     |         |
| MARLAW 433  | Maritime Laws, Rules and Regulation | 4.5         | 0        | 3         |         |
| ENVIRON 432 | Environmental Engineering           | 3           | 0        | 2         |         |
| NA 434L6    | Ship Design 2 (Thesis Part 2)       | 3           | 9        | 4         |         |
| NA 432      | Motion in Waves                     | 3           | 0        | 2         |         |
|             | <b>Total</b>                        | <b>13.5</b> | <b>9</b> | <b>11</b> |         |