



University of Southeastern Philippines
College of Engineering

BACHELOR OF SCIENCE SANITARY ENGINEERING

CMO. 98 series of 2017

Approved per BOR Resolution No. 59 Series of 2018

Revised per BOR Resolution No. 75 Series of 2019

Effective S.Y. 2018-2019

| FIRST YEAR | | | | | | | | | | | |
|------------|-------------------------------------|--------|-----|--------------------|------------------|------------|--|--------|-----|--------------------|--------------------|
| Course No. | Course Title | Credit | | | Pre/Co-Requisite | Course No. | Course Title | Credit | | | Pre/Co-Requisite |
| | | Lec | Lab | Total Units Credit | | | | Lec | Lab | Total Units Credit | |
| GE 111 | Purposive Communication | 3 | 0 | 3 | None | GE 113 | Understanding the Self | 3 | 0 | 3 | None |
| GE 112 | Mathematics in the Modern World | 3 | 0 | 3 | None | GE 114 | Ethics | 3 | 0 | 3 | None |
| GE 215 | The Life and Works of Rizal | 3 | 0 | 3 | None | GE 217 | Science, Technology and Society | 3 | 0 | 3 | None |
| Math 111 | Engineering Calculus 1 | 3 | 0 | 3 | None | Math 121 | Engineering Calculus 2 | 3 | 0 | 3 | Math 111 |
| Nat Sci 1 | Chemistry for Engineers | 3 | 1 | 4 | None | Nat Sci 2 | Physics for Engineers | 3 | 1 | 4 | Nat Sci 1 Math 111 |
| BES 101 | Engineering Drawing and Plans | 0 | 1 | 1 | None | BES 102 | Computer Aided Drafting | 0 | 1 | 1 | BES 101 |
| SEP 111 | Sanitary Engineering Orientation | 2 | 0 | 2 | None | SEP 121 | Environmental and Sanitary Chemistry | 3 | 0 | 3 | Nat Sci 1 |
| PE 111 | Movement Enhancement | 2 | 0 | 2 | None | SEP 121L | Environmental and Sanitary Chemistry Lab | 0 | 1 | 1 | Nat Sci 1 |
| NSTP 111 | National Service Training Program 1 | 3 | 0 | 3 | None | PE 122 | Fitness Exercise | 2 | 0 | 2 | PE 111 |
| | | | | | | NSTP 122 | National Service Training Program 2 | 3 | 0 | 3 | NSTP 111 |
| | Total | | | 24 | | | Total | | | 26 | |

| SECOND YEAR | | | | | | | | | | | |
|-------------|--|--------|-----|--------------------|---------------------|------------|---|--------|-----|--------------------|---------------------|
| Course No. | Course Title | Credit | | | Pre/Co-Requisite | Course No. | Course Title | Credit | | | Pre/Co-Requisite |
| | | Lec | Lab | Total Units Credit | | | | Lec | Lab | Total Units Credit | |
| GE 216 | Readings in Philippine History | 3 | 0 | 3 | None | BES 105 | Mechanics of Deformable Bodies | 4 | 0 | 4 | BES 115 |
| Nat Sci 3 | Engineering Geology | 2 | 0 | 2 | Nat Sci 1 | BES 107 | Methods of Research | 3 | 0 | 3 | Math 212, GE 111 |
| Math 211 | Differential Equations | 3 | 0 | 3 | Math 121 | BES 112 | Environmental Science and Engineering | 3 | 0 | 3 | Nat Sci 1 |
| Math 212 | Engineering Data Analysis | 3 | 0 | 3 | Math 121 | CEC 221 | Fundamentals of Surveying | 3 | 0 | 3 | Math 121, Nat Sci 2 |
| BES 103 | Computer Fundamentals and Programming | 1 | 2 | 3 | None | CEC 221F | Fundamentals of Surveying Field | 0 | 2 | 2 | Math 121, Nat Sci 2 |
| BES 106 | Engineering Economics | 3 | 0 | 3 | Math 121 | ALE 223 | Basic Mechanical Engineering | 3 | 0 | 3 | Nat Sci 2 |
| RES 115 | Mechanics of Rigid Bodies | 5 | 0 | 5 | Math 121, Nat Sci 2 | ALE 224 | Basic Electrical Engineering | 3 | 0 | 3 | Nat Sci 2 |
| PE 213 | Physical Activities Towards Health & Fitness I | 2 | 0 | 2 | PE 122 | PE 224 | Physical Activities Towards Health & Fitness II | 2 | 0 | 2 | PE 213 |
| | Total | | | 24 | | | Total | | | 23 | |

OFF SEMESTER 1 (refer below for ***OFF SEMESTER COURSES***)

| THIRD YEAR | | | | | | | | | | | |
|------------|---|--------|-----|--------------------|------------------|------------|---|--------|-----|--------------------|-------------------|
| Course No. | Course Title | Credit | | | Pre/Co-Requisite | Course No. | Course Title | Credit | | | Pre/Co-Requisite |
| | | Lec | Lab | Total Units Credit | | | | Lec | Lab | Total Units Credit | |
| Math 311 | Numerical Solutions to SE Problems | 2 | 1 | 3 | Math 211 | CEC 322 | Construction Materials and Testing, Lecture | 2 | 0 | 2 | BES 105 |
| CEC 313 | Geotechnical Engineering, Lecture | 3 | 0 | 3 | BES 105 | CEC 322L | Construction Materials and Testing, Lab | 0 | 1 | 1 | BES 105 |
| CEC 313L | Geotechnical Engineering, Lab | 0 | 1 | 1 | BES 105 | CEC 324 | Principle of Reinforced / Prestressed Concrete | 3 | 1 | 4 | CEC 311 |
| CEC 311 | Structural Theory | 3 | 1 | 4 | BES 105 | SEP 321 | Sanitary Science: Fire Protection and Plumbing as Applied to Building | 2 | 1 | 3 | SEP 311L |
| SEP 311 | Hydraulics, Lecture | 4 | 0 | 4 | ALE 223 | SEP 322 | Water Supply Planning and Development | 3 | 0 | 3 | SEP 311L, SEP 312 |
| SEP 311L | Hydraulics, Lab | 0 | 1 | 1 | ALE 223 | SEP 323 | Sewerage and Urban Drainage | 3 | 0 | 3 | SEP 311L, SEP 312 |
| SEP 312 | Hydrology | 3 | 0 | 3 | Math 211 | SEP 325 | Public Health Engineering | 2 | 0 | 2 | SEP 313, BES 112 |
| SEP 313 | Microbiology and Parasitology for Environmental Engineers | 2 | 1 | 3 | SEP 121L | SEP 326 | Environmental Planning, Laws and Impact Assessment | 3 | 0 | 3 | SEP 313, SEP 121 |
| SEP 314 | Solid and Hazardous Waste Engineering | 3 | 0 | 3 | SEP 121L | EGE 311 | General Education Elective 1 | 3 | 0 | 3 | None |
| | Total | | | 25 | | | Total | | | 24 | |

OFF SEMESTER 2 (refer below for ***OFF SEMESTER COURSES***)

| FOURTH YEAR | | | | | | | | | | | | |
|-------------|---|--------|-----|--------------------|------------------------------|------------|---|--------------|-----|--------------------|------------------------------|------------------|
| Course No. | Course Title | Credit | | | Pre/Co-Requisite | Course No. | Course Title | Credit | | | Pre/Co-Requisite | |
| | | Lec | Lab | Total Units Credit | | | | Lec | Lab | Total Units Credit | | |
| EGE 312 | General Education Elective 2 | 3 | 0 | 3 | None | SEP 400 | SE Project | 0 | 3 | 3 | All prior Subjects Completed | |
| EGE 313 | General Education Elective 3 | 3 | 0 | 3 | None | SEP 421 | Correlation Course | 0 | 2 | 2 | | |
| SEP 400 | SE Project | 0 | 3 | 3 | All prior Subjects completed | SEP 422 | FREE ELECTIVE | 0 | 1 | 1 | | |
| SEP 411 | Water Purification Process Design | 3 | 0 | 3 | SEP 322 | SEP 423 | Specialized On-the-Job Training (320 hrs) | 0 | 2 | 2 | | |
| SEP 412 | Sewerage and industrial Wastewater Treatment | 3 | 0 | 3 | SEP 322 | | Total | | | 8 | | |
| SEP 413 | Sanitary Engineering Laws, Contract and Ethics | 3 | 0 | 3 | SEP 323 | | OFF SEMESTER 1 COURSES | | | | | |
| SEP 414 | Environmental Engineering laboratory | 0 | 1 | 1 | SEP 326 | | Course No. | Course Title | Lec | Lab | Total Units Credit | Pre/Co-Requisite |
| SEP 415 | Planning and Design in Environmental and Sanitary Engineering | 1 | 1 | 2 | SEP 326 | GE 319 | Contemporary World | 3 | 0 | 3 | None | |
| SEP 416 | Project Management | 3 | 1 | 4 | SEP 326 | GE 218 | Arts Appreciation | 3 | 0 | 3 | None | |
| | Total | | | 25 | | | Total | | | 6 | | |

| Summary | | |
|---------------------------------|--|------------|
| Mathematics | | 15 |
| Natural and Physical Sciences | | 10 |
| Basic Engineering Sciences | | 28 |
| Allied Courses | | 9 |
| Professional Core Courses | | 78 |
| Correlation Courses | | 2 |
| On the Job Training (320 Hours) | | 2 (lab) |
| General Education Courses | | 24 |
| GE Elective & Mandated Courses | | 12 |
| PE / NSTP | | 14 |
| Total number of units | | 194 |

| OFF SEMESTER 2 COURSES | | | | | |
|------------------------|--------------------------------------|--------|-----|------------------|--------------------|
| Course No. | Course Title | Credit | | Pre/Co-Requisite | |
| | | Lec | Lab | | Total Units Credit |
| BES 109 | Engineering Management | 3 | 0 | 3 | Math 212 |
| BES 110 | Technopreneurship | 3 | 0 | 3 | Co req. BES 109 |
| BES 113 | Basic Occupational Health and Safety | 3 | 0 | 3 | SEP 313, BES 112 |
| | Total | | | 9 | |

| SUGGESTED GE ELECTIVES | | | | |
|----------------------------------|---|---|---|------|
| People and the Earth's Ecosystem | 3 | 0 | 3 | None |
| The Entrepreneurial Mind | 3 | 0 | 3 | None |
| Living in the IT Era | 3 | 0 | 3 | None |
| Gender and Society | 3 | 0 | 3 | None |
| Popular Literature | 3 | 0 | 3 | None |
| Foreign Language | 3 | 0 | 3 | None |
| Transpersonal Psychology | 3 | 0 | 3 | None |