



2018 CURRICULUM FOR BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (BSCpE)

IMPORTANT : REGISTRATION IN ANY COURSE WITHOUT ALL THE PREREQUISITES, CORRECT SEQUENCE AND AUTHORIZED LOAD SHALL NOT BE GIVEN ANY CREDIT REGARDLESS OF THE GRADE OBTAINED. EVALUATION IS TENTATIVE AND MAY BE REVISED FOR SOME VALID CAUSES OR REASONS OR IF OMISSIONS AND/OR LACK OF UNITS CREDITED BE DISCOVERED LATER.

| COURSE CODE                                    |      | DESCRIPTIVE TITLE                                  | Student's Name and Signature |                  |              | PREREQUISITE(S)                |
|--|------|--|------------------------------|------------------|--------------|--------------------------------|
|  |      |  | Lecture Hours                | Laboratory Hours | Credit Units |                                |
| <b>FIRST YEAR, FIRST SEMESTER (20 UNITS)</b>   |      |  |                              |                  |              |                                |
| MATH   | 018  | Calculus 1   | 3                            | 0                | 3            |                                |
| MATH   | 025  | Discrete Mathematics                               | 3                            | 0                | 3            |                                |
| CHM  | 001  | Chemistry for Engineers                            | 3                            | 3                | 4            |                                |
| CPE  | 101  | Computer Engineering as a Discipline               | 1                            | 0                | 1            |                                |
| CPE  | 102  | Programming Logic and Design                       | 0                            | 6                | 2            |                                |
| CPE  | 103  | Computer System Administration and Troubleshooting | 0                            | 3                | 1            |                                |
| CPE  | 104  | Computer-Aided Drafting                            | 0                            | 3                | 1            |                                |
| GEC  | 001  | Understanding the Self                             | 3                            | 0                | 3            |                                |
| PE   | 101  | Physical Education 1                               | 2                            | 0                | 2            |                                |
| NSTP   | 001  | National Service Training Program 1                | (3)                          | 0                | (3)          |                                |
| <b>FIRST YEAR, SECOND SEMESTER (23 UNITS)</b>  |      |  |                              |                  |              |                                |
| MATH   | 019  | Calculus 2   | 3                            | 0                | 3            | MATH 018                       |
| TECH   | 101  | Introduction to Engineering Entrepreneurship       | 3                            | 0                | 3            |                                |
| GEM  | 001  | Life and Works of Rizal                            | 3                            | 0                | 3            |                                |
| PHYS   | 111  | Calculus-Based Physics                             | 3                            | 3                | 4            |                                |
| CPE  | 105  | Object-Oriented Programming                        | 0                            | 6                | 2            | CPE 102                        |
| GEE  | 001B | GE Elective 1 - Gender and Society                 | 3                            | 0                | 3            |                                |
| GEC  | 006  | Art Appreciation                                   | 3                            | 0                | 3            |                                |
| PE   | 102  | Physical Education 2                               | 2                            | 0                | 2            |                                |
| NSTP   | 002  | National Service Training Program 2                | (3)                          | 0                | (3)          | NSTP 001                       |
| <b>SECOND YEAR, FIRST SEMESTER (26 UNITS)</b>  |      |  |                              |                  |              |                                |
| MATH   | 021  | Differential Equations                             | 3                            | 0                | 3            | MATH 019                       |
| ECE  | 201A | Fundamentals of Electronic Circuits                | 3                            | 3                | 4            | PHYS 111                       |
| EE   | 200D | Fundamentals of Electrical Circuits                | 3                            | 3                | 4            | PHYS 111                       |
| CPE  | 200  | Data Structures and Algorithms                     | 0                            | 6                | 2            | CPE 105                        |
| CPE  | 202  | Database Management System                         | 0                            | 6                | 2            | CPE 105                        |
| MATH   | 022B | Linear Algebra with MATLAB                         | 2                            | 3                | 3            | MATH 019, MATH 025             |
| GEC  | 004  | Mathematics in the Modern World                    | 3                            | 0                | 3            |                                |
| GEE  | 002B | GE Elective 2 - Living in the IT Era               | 3                            | 0                | 3            |                                |
| PE   | 201  | Physical Education 3                               | 2                            | 0                | 2            |                                |
| <b>SECOND YEAR, SECOND SEMESTER (26 UNITS)</b> |      |  |                              |                  |              |                                |
| MATH   | 026B | Numerical Methods                                  | 3                            | 0                | 3            | MATH 021, MATH 022B            |
| CPE  | 203  | Logic Circuits and Design                          | 3                            | 3                | 4            | ECE 201A, EE 200D              |
| ECE  | 308A | Data and Digital Communications                    | 3                            | 0                | 3            | PHYS 111                       |
| CPE  | 204  | Computer Engineering Drafting and Design           | 0                            | 3                | 1            | ECE 201A, EE 200D              |
| CPE  | 205  | Software Design                                    | 3                            | 3                | 4            | CPE 200, CPE 202               |
| CPE  | 206  | Computer Networks 1                                | 2                            | 3                | 3            | CPE 103                        |
| CPEC   | 202  | Cognate/Elective Course 1                          | 2                            | 3                | 3            | See track for pre-requisite(s) |
| ME   | 304A | Engineering Economics                              | 3                            | 0                | 3            |                                |
| PE   | 202  | Physical Education 4                               | 2                            | 0                | 2            |                                |
| <b>THIRD YEAR, FIRST SEMESTER (26 UNITS)</b>   |      |  |                              |                  |              |                                |
| CPE  | 300  | Optimization Techniques                            | 3                            | 0                | 3            | MATH 021                       |
| CPE  | 316  | Introduction to HDL                                | 0                            | 3                | 1            | CPE 203                        |
| ECE  | 309A | Feedback and Control Systems                       | 3                            | 0                | 3            | MATH 026B                      |
| CPE  | 317  | Fundamentals of Mixed Signals and Sensors          | 3                            | 0                | 3            | ECE 201A                       |
| CPE  | 306  | Computer Networks 2                                | 2                            | 3                | 3            | CPE 206                        |
| CPEC   | 301  | Cognate/Elective Course 2                          | 2                            | 3                | 3            | See track for pre-requisite(s) |
| CPE  | 023  | Engineering Data Analysis                          | 3                            | 3                | 4            | MATH 018, MATH 025             |
| GEE  | 003B | GE Elective 3 - People and the Earth's Ecosystem   | 3                            | 0                | 3            |                                |
| GEC  | 003  | The Contemporary World                             | 3                            | 0                | 3            |                                |
| <b>THIRD YEAR, SECOND SEMESTER (25 UNITS)</b>  |      |  |                              |                  |              |                                |
| GEC  | 005  | Purposive Communication                            | 3                            | 0                | 3            |                                |
| BOSH   | 101  | Basic Occupational Safety and Health               | 3                            | 0                | 3            | 3rd Year Standing              |
| CPE  | 309  | Methods of Research                                | 2                            | 0                | 2            | CPE 300, CPE 023               |
| CPE  | 310  | Computer Architecture and Organization             | 3                            | 3                | 4            | CPE 316                        |
| CPE  | 311  | Operating Systems                                  | 3                            | 0                | 3            | CPE 205                        |
| CPEC   | 302  | Cognate/Elective Course 3                          | 2                            | 3                | 3            | See track for pre-requisite(s) |
| CPE  | 314  | Computer Networks 3                                | 2                            | 3                | 3            | CPE 306                        |
| GEC  | 008  | Ethics   | 3                            | 0                | 3            |                                |
| CPE  | 318  | Computer System Performance Evaluation             | 0                            | 3                | 1            | CPE 023                        |

NO STUDENT SHALL BE ALLOWED TO TAKE FOURTH YEAR PROFESSIONAL COURSES UNLESS HE HAS COMPLETED THE BASIC AND THE THIRD YEAR COURSES INCLUDING PE AND NSTP.

| COURSE CODE  | DESCRIPTIVE TITLE | Lecture Hours                                    |   |     | Laboratory Hours |  |  | CREDIT UNITS      | PREREQUISITE(S) |
|--|-------------------|--|---|-----|------------------|--|--|-------------------|-----------------|
|  |                   |  |   |     |                  |  |  |                   |                 |
| <b>FOURTH YEAR, SUMMER (7 UNITS)</b>   |                   |  |   |     |                  |  |  |                   |                 |
| CPE  | 410               | Introduction to Intellectual Property            | 0 | 3   | 1                |  |  | 3rd Year Standing |                 |
| CPE  | 408               | Emerging Technologies in CpE                     | 2 | 3   | 3                |  |  | 3rd Year Standing |                 |
| CPE  | 409               | Seminars and Field Trips                         | 0 | 3   | 1                |  |  | 3rd Year Standing |                 |
| CPE  | 308               | CpE Laws and Professional Practice               | 2 | 0   | 2                |  |  | 3rd Year Standing |                 |
| <b>FOURTH YEAR, FIRST SEMESTER (25 UNITS)</b>  |                   |  |   |     |                  |  |  |                   |                 |
| CPE  | 400               | Embedded Systems                                 | 3 | 3   | 4                |  |  | CPE 310           |                 |
| CPE  | 405               | Microprocessors                                  | 3 | 3   | 4                |  |  | CPE 310           |                 |
| CPE  | 406               | CpE Design 1                                     | 2 | 3   | 3                |  |  | CPE 309           |                 |
| CPE  | 416               | Digital Signal Processing and Application        | 3 | 3   | 4                |  |  | MATH 026B         |                 |
| CPE  | 407               | Computer Networks Design                         | 3 | 3   | 4                |  |  | CPE 314           |                 |
| GEC  | 002               | Readings in Philippine History                   | 3 | 0   | 3                |  |  |                   |                 |
| GEC  | 007               | Science, Technology and Society                  | 3 | 0   | 3                |  |  |                   |                 |
| <b>FOURTH YEAR, SECOND SEMESTER (6 UNITS)</b>  |                   |  |   |     |                  |  |  |                   |                 |
| CPE  | 413               | CpE Design 2                                     | 1 | 6   | 3                |  |  | Graduating        |                 |
| CPE  | 414               | On-the-Job Training for Computer Engineering     | 3 | 240 | 3                |  |  | 4th Year Standing |                 |
| <b>ELECTIVE COURSES</b>  |                   |  |   |     |                  |  |  |                   |                 |
| NOTE: A STUDENT MAY CHOOSE ANY OF THE TRACK ELECTIVES BELOW AND ONCE A TRACK ELECTIVE IS CHOSEN, ALL COURSES IN THE TRACK MUST BE TAKEN. |                   |  |   |     |                  |  |  |                   |                 |
| <b>Track Elective 1: Systems Administration</b>  |                   |  |   |     |                  |  |  |                   |                 |
| CPE  | 207               | System Administration Fundamentals               | 2 | 3   | 3                |  |  | CPE 206 (C)       |                 |
| CPE  | 307               | Managing Enterprise Servers                      | 2 | 3   | 3                |  |  | CPE 207           |                 |
| CPE  | 312               | Enterprise Security                              | 2 | 3   | 3                |  |  | CPE 307           |                 |
| <b>Track Elective 2: Cybersecurity</b>   |                   |  |   |     |                  |  |  |                   |                 |
| CPE  | 209               | Fundamentals of Cybersecurity                    | 2 | 3   | 3                |  |  | CPE 206 (C)       |                 |
| CPE  | 320               | Computer Security Management                     | 2 | 3   | 3                |  |  | CPE 209           |                 |
| CPE  | 315               | Forensics of Cybersecurity                       | 2 | 3   | 3                |  |  | CPE 320           |                 |
| <b>Track Elective 3: Robotics</b>  |                   |  |   |     |                  |  |  |                   |                 |
| CPE  | 331A              | Principles of Robotics                           | 2 | 3   | 3                |  |  | CPE 203 (C)       |                 |
| CPE  | 332               | Programming Robots                               | 2 | 3   | 3                |  |  | CPE 331A          |                 |
| CPE  | 343               | Robot Design                                     | 2 | 3   | 3                |  |  | CPE 332           |                 |
| <b>Track Elective 4: Technopreneurship</b>   |                   |  |   |     |                  |  |  |                   |                 |
| TECH   | 102               | Technopreneurship 2                              | 3 | 0   | 3                |  |  | ME 304A, TECH 101 |                 |
| TECH   | 103               | Technopreneurship 3                              | 3 | 0   | 3                |  |  | TECH 102          |                 |
| TECH   | 104               | Technopreneurship 4                              | 2 | 3   | 3                |  |  | TECH 103          |                 |
| <b>Track Elective 5: Data Science</b>  |                   |  |   |     |                  |  |  |                   |                 |
| COE  | 003               | Computational Thinking with Python               | 2 | 3   | 3                |  |  | CPE 200           |                 |
| COE  | 004               | Interential Thinking by Resampling               | 2 | 3   | 3                |  |  | COE 003           |                 |
| COE  | 005               | Prediction and Machine Learning                  | 2 | 3   | 3                |  |  | COE 004           |                 |
| <b>Track Elective 6: Railway Engineering</b>   |                   |  |   |     |                  |  |  |                   |                 |
| RWE  | 001               | Introduction to Railway Systems and Engineering  | 3 | 0   | 3                |  |  |                   |                 |
| RWE  | 002A              | Railway Management and Governance and Operations | 3 | 0   | 3                |  |  | RWE 001           |                 |
| RWE  | 003A              | Advanced Topic on Railway Engineering            | 3 | 0   | 3                |  |  | RWE 002A          |                 |
| <b>TOTAL NO. OF UNITS</b>  |                   |  |   |     |                  |  |  | <b>190</b>        |                 |

CREDENTIALS SUBMITTED:

- ( ) F138 ( ) PSA Birth Certificate
- ( ) GMC ( ) Transfer Credential
- ( ) F137A ( ) TOR

DEFICIENCY/IES

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Evaluated by: \_\_\_\_\_

Date: \_\_\_\_\_

Received by: \_\_\_\_\_

Date: \_\_\_\_\_