

## BACHELOR OF SCIENCE IN CHEMISTRY

EFFECTIVE S.Y. 2018-2019

| FIRST YEAR            |       |                                 |              |     |       |       |                |               |
|-----------------------|-------|---------------------------------|--------------|-----|-------|-------|----------------|---------------|
| <i>First Semester</i> |       |                                 |              |     |       |       |                |               |
| Course Code           |       | Description                     | No. of Hours |     |       | Units | Pre-requisites | Co-requisites |
|                       |       |                                 | LEC          | LAB | Total |       |                |               |
| SS                    | 101   | Understanding the Self          | 3            | 0   | 3     | 3     | None           | None          |
| Fil                   | 101   | Wika                            | 3            | 0   | 3     | 3     | None           | None          |
| Eng                   | 101   | Purposive Communication         | 3            | 0   | 3     | 3     | None           | None          |
| Eng                   | 102   | Art Appreciation                | 3            | 0   | 3     | 3     | None           | None          |
| Math                  | 101   | Mathematics in the Modern World | 3            | 0   | 3     | 3     | None           | None          |
| Chem                  | 100   | Principles of Chemistry (Lec)   | 3            | 0   | 3     | 3     | None           | None          |
| Chem                  | 100.2 | Principles of Chemistry (Lab)   | 0            | 6   | 6     | 2     | None           | None          |
| PE                    | 101   | Movement Enhancement            | 2            | 0   | 2     | 2     | None           | None          |
| NSTP                  | 101   | ROTC / CWTS / LTS 1             | 3            | 0   | 3     | 3     | None           | None          |
|                       |       |                                 | Total        |     | 29    | 25    |                |               |

| FIRST YEAR             |       |                                 |              |     |       |       |                |               |
|------------------------|-------|---------------------------------|--------------|-----|-------|-------|----------------|---------------|
| <i>Second Semester</i> |       |                                 |              |     |       |       |                |               |
| Course Code            |       | Description                     | No. of Hours |     |       | Units | Pre-requisites | Co-requisites |
|                        |       |                                 | LEC          | LAB | Total |       |                |               |
| SS                     | 102   | Reading in Philippine History   | 3            | 0   | 3     | 3     | None           | None          |
| Fil                    | 102   | Panitikan                       | 3            | 0   | 3     | 3     | Fil101         | None          |
| SS                     | 104   | Ethics                          | 3            | 0   | 3     | 3     | None           | None          |
| Math                   |       | Calculus 1                      | 3            | 0   | 3     | 3     | None           | None          |
| Phys                   |       | Mechanics and Heat (Lec)        | 3            | 0   | 3     | 3     | None           | None          |
| Phys                   |       | Mechanics and Heat (Lab)        | 0            | 3   | 3     | 1     | None           | None          |
| Chem                   | 121   | Inorganic Chemistry 1 (Lec)     | 2            | 0   | 2     | 2     | Chem100        | Chem121.1     |
| Chem                   | 121.1 | Inorganic Chemistry 1 (Lab)     | 0            | 3   | 3     | 1     | Chem100        | Chem121       |
| PE                     | 102   | Fitness Exercise and Activities | 2            | 0   | 2     | 2     | None           | None          |
| NSTP                   | 201   | ROTC / CWTS / LTS 2             | 3            | 0   | 3     | 3     | None           | None          |
|                        |       |                                 | Total        |     | 28    | 24    |                |               |

| SECOND YEAR           |       |   |              |     |       |       |                |               |
|-----------------------|-------|---|--------------|-----|-------|-------|----------------|---------------|
| <i>First Semester</i> |       |   |              |     |       |       |                |               |
| Course Code           |       | Description   | No. of Hours |     |       | Units | Pre-requisites | Co-requisites |
|                       |       |   | LEC          | LAB | Total |       |                |               |
| ES                    | 101   | Reading in Philippine History                             | 3            | 0   | 3     | 3     | None           | None          |
| SS                    | 201   | The Entrepreneurial Mind                                  | 3            | 0   | 3     | 3     | None           | None          |
| Math                  |       | Calculus 2  | 3            | 0   | 3     | 3     |                |               |
| Phys                  |       | Electricity, Magnetism, and Optics (Lec)                  | 3            | 0   | 3     | 3     |                |               |
| Phys                  |       | Electricity, Magnetism, and Optics (Lab)                  | 0            | 3   | 3     | 1     |                |               |
| Chem                  | 212   | Organic Chemistry 1 (Lec)                                 | 3            | 0   | 3     | 3     | Chem100        | Chem212.2     |
| Chem                  | 212.2 | Organic Chemistry 1 (Lab)                                 | 0            | 6   | 6     | 2     | Chem100        | Chem212       |
| Chem                  | 213   | Analytical Chemistry 1 (Lec)                              | 3            | 0   | 3     | 3     | Chem100        | Chem213.2     |
| Chem                  | 213.2 | Analytical Chemistry 1 (Lab)                              | 0            | 6   | 6     | 2     | Chem100        | Chem213       |
| PE                    | 103   | Physical Activity Towards Health and Fitness (PATH Fit) 1 | 2            | 0   | 2     | 2     | None           | None          |
|                       |       |   | Total        |     | 35    | 25    |                |               |

| SECOND YEAR            |       |   |              |     |       |       |                         |               |
|------------------------|-------|---|--------------|-----|-------|-------|-------------------------|---------------|
| <i>Second Semester</i> |       |   |              |     |       |       |                         |               |
| Course Code            |       | Description   | No. of Hours |     |       | Units | Pre-requisites          | Co-requisites |
|                        |       |   | LEC          | LAB | Total |       |                         |               |
| SS                     | 103   | The Contemporary World                                    | 3            | 0   | 3     | 3     | None                    | None          |
| SS                     | 105   | Life and Works of Rizal                                   | 3            | 0   | 3     | 3     | None                    | None          |
| Chem                   | 226   | Chemical Entrepreneurship                                 | 3            | 0   | 3     | 3     | SS201                   | None          |
| Chem                   | 222   | Organic Chemistry 2 (Lec)                                 | 3            | 0   | 3     | 3     | Chem212                 | Chem222.2     |
| Chem                   | 222.2 | Organic Chemistry 2 (Lab)                                 | 0            | 6   | 6     | 2     | Chem212                 | Chem222       |
| Chem                   | 223   | Analytical Chemistry 2 (Lec)                              | 3            | 0   | 3     | 3     | Chem212, Chem213        | Chem223.2     |
| Chem                   | 223.2 | Analytical Chemistry 2 (Lab)                              | 0            | 6   | 6     | 2     | Chem212, Chem 213       | Chem223       |
| Chem                   | 224   | Physical Chemistry 1 (Lec)                                | 3            | 0   | 3     | 3     | Chem212, Chem213, Math2 | None          |
| PE                     | 104   | Physical Activity Towards Health and Fitness (PATH Fit) 2 | 2            | 0   | 2     | 2     | None                    | None          |
|                        |       |   | Total        |     | 32    | 24    |                         |               |

| THIRD YEAR            |       |                               |              |     |       |       |                    |               |
|-----------------------|-------|-------------------------------|--------------|-----|-------|-------|--------------------|---------------|
| <i>First Semester</i> |       |                               |              |     |       |       |                    |               |
| Course Code           |       | Description                   | No. of Hours |     |       | Units | Pre-requisites     | Co-requisites |
|                       |       |                               | LEC          | LAB | Total |       |                    |               |
| Chem                  | 224.2 | Physical Chemistry 1 (Lec)    | 0            | 6   | 6     | 2     | Chem 224           | None          |
| Chem                  | 311   | Inorganic Chemistry 2 (Lec)   | 3            | 0   | 3     | 3     | Chem 121, Chem 224 | Chem 224.2    |
| Chem                  | 313   | Analytical Chemistry 3 (Lec)  | 2            | 0   | 2     | 2     | Chem 223           | None          |
| Chem                  | 314   | Physical Chemistry 2 (Lec)    | 3            | 0   | 3     | 3     | Chem 224           | Chem 314.2    |
| Chem                  | 314.2 | Physical Chemistry 2 (Lab)    | 0            | 6   | 6     | 2     | Chem 224           | Chem 314      |
| Chem                  | 315   | Biochemistry 1 (Lec)          | 3            | 0   | 3     | 3     | Chem 222           | Chem 315.2    |
| Chem                  | 315.2 | Biochemistry 1 (Lab)          | 0            | 6   | 6     | 2     | Chem 222           | Chem 315      |
| Chem                  | 316   | Industrial Quality Management | 3            | 0   | 3     | 3     | Chem 213           | None          |
|                       |       |                               | Total        |     | 32    | 20    |                    |               |

| THIRD YEAR             |       |  |              |     |       |       |                           |               |
|------------------------|-------|--|--------------|-----|-------|-------|---------------------------|---------------|
| <i>Second Semester</i> |       |  |              |     |       |       |                           |               |
| Course Code            |       | Description                                      | No. of Hours |     |       | Units | Pre-requisites            | Co-requisites |
|                        |       |  | LEC          | LAB | Total |       |                           |               |
| Chem                   | 323   | Analytical Chemistry 4 (Lec)                     | 3            | 0   | 3     | 3     | Chem213                   | Chem323.1     |
| Chem                   | 323.1 | Analytical Chemistry 4 (Lab)                     | 0            | 3   | 3     | 1     | Chem213                   | Chem323       |
| Chem                   | 324   | Physical Chemistry 3                             | 3            | 0   | 3     | 3     | Chem224                   | None          |
| Chem                   | 325   | Biochemistry 2 (Lec)                             | 3            | 0   | 3     | 3     | Chem315                   | None          |
| Chem                   | 326   | Industrial Microbiology (Lec)                    | 1            | 0   | 1     | 1     | Chem315                   | Chem326. 2    |
| Chem                   | 326.2 | Industrial Microbiology (Lab)                    | 0            | 3   | 3     | 1     | Chem315                   | Chem326       |
| Chem                   | 327   | Environmental Chemistry                          | 2            | 0   | 2     | 2     | Chem222, Chem313          | None          |
| Chem                   | 328   | Chemical Jurisprudence and Intellectual Property | 1            | 0   | 1     | 1     | None                      | None          |
| Chem                   | 320   | Research Methods in Chemistry                    | 1            | 0   | 1     | 1     | Chem222, Chem223, Chem224 | None          |
|                        |       |  | Total        |     | 20    | 16    |                           |               |

| THIRD YEAR    |     |                         |              |     |       |       |                     |               |
|---------------|-----|-------------------------|--------------|-----|-------|-------|---------------------|---------------|
| <i>Summer</i> |     |                         |              |     |       |       |                     |               |
| Course Code   |     | Description             | No. of Hours |     |       | Units | Pre-requisites      | Co-requisites |
|               |     |                         | LEC          | LAB | Total |       |                     |               |
| OJT           | 330 | Professional Engagement |              |     |       | 4     | 110 units completed | None          |

**FOURTH YEAR*****First Semester***

| Course Code |      | Description                 | No. of Hours |     |       | Units | Pre-requisites   | Co-requisites |
|-------------|------|-----------------------------|--------------|-----|-------|-------|------------------|---------------|
|             |      |                             | LEC          | LAB | Total |       |                  |               |
| Chem        | 401  | Chemistry Seminar 1         | 0            | 3   | 3     | 1     | Chem331, Chem325 | None          |
| Chem        | Elec | Optional Chemistry Elective |              |     |       | 2     |                  | None          |
| Chem        | 410  | Undergraduate Thesis 1      | 1            | 6   | 7     | 3     | Chem320          | None          |
|             |      |                             | Total        |     |       | 6     |                  |               |

**FOURTH YEAR*****Second Semester***

| Course Code |     | Description            | No. of Hours |     |       | Units | Pre-requisites               | Co-requisites |
|-------------|-----|------------------------|--------------|-----|-------|-------|------------------------------|---------------|
|             |     |                        | LEC          | LAB | Total |       |                              |               |
| Chem        | 402 | Chemistry Seminar 2    | 0            | 3   | 3     | 1     | Chem323, Chem324             | None          |
| Chem        | 426 | Industrial Chemistry   | 2            | 0   | 2     | 2     | Chem213,<br>Chem222, Chem311 | None          |
| Chem        | 420 | Undergraduate Thesis 2 | 1            | 6   | 7     | 3     | Chem410                      | None          |
|             |     |                        | Total        |     |       | 12    | 6                            |               |

**CHEMISTRY ELECTIVES FOR FOURTH YEAR*****First Semester***

| Course Code |     | Description             | No. of Hours |     |       | Units | Pre-requisites | Co-requisites |
|-------------|-----|-------------------------|--------------|-----|-------|-------|----------------|---------------|
|             |     |                         | LEC          | LAB | Total |       |                |               |
| Chem        | 417 | Organic Chemistry 3     | 2            | 0   | 2     | 2     | Chem222        | None          |
| Chem        | 418 | Computational Chemistry | 1            | 3   | 4     | 2     | Chem324        | None          |
|             |     |                         | Total        |     |       | 6     | 4              |               |