**DEGREE REQUIREMENTS RECORD FORM**

**CHEMISTRY PROGRAM – Chemistry/Chemical Engineering Dual Degree**

**2024-2025 Catalog Proposed Date of Graduation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Student's Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SUID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Advisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Last First Middle**

**First Year**

|  |  |  |
| --- | --- | --- |
| First Semester |  | Second Semester |
| **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |  | **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |
| College Success Skills | FRMN | 120B | 2 |  |  |  |  | Freshman Composition | SENL | 102B | 3 |  |  |  |
| Freshman Composition | SENL | 101B | 3 |  |  |  |  | Calculus II | SMAT | 212B | 4 |  |  |  |
| Calculus I | SMAT | 211B | 4 |  |  |  |  | General Chemistry Lec II | SCHE | 133B | 3 |  |  |  |
| General Chemistry Lec I | SCHE | 132B | 3 |  |  |  |  | General Chemistry Lab II | SCHE | 133LB | 1 |  |  |  |
| General Chemistry Lab I | SCHE | 132LB | 1 |  |  |  |  | General Physics Lec II | SPHY | 215B | 3 |  |  |  |
| General Physics Lec I | SPHY | 213B | 3 |  |  |  |  | General Physics Lab II | SPHY | 214LB | 1 |  |  |  |
| General Physics Lab I | SPHY | 213LB | 1 |  |  |  |  |  |  |  |  |  |  |  |
| **Total** |  |  | **17** |  |  |  |  | **Total** |  |  | **15** |  |  |  |

**Second Year**

|  |  |  |
| --- | --- | --- |
| First Semester |  | Second Semester |
| **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |  | **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |
| Organic Chemistry Lec I | SCHE | 230B | 3 |  |  |  |  | Organic Chemistry Lec II | SCHE | 231B | 3 |  |  |  |
| Organic Chemistry Lab I | SCHE | 220B | 1 |  |  |  |  | Organic Chemistry Lab II | SCHE | 221B | 2 |  |  |  |
| Calculus III | MATH | 364B | 4 |  |  |  |  | Ordinary Differ. Eqns. | MATH | 370B | 4 |  |  |  |
| Quant. Analysis Lec | CHEM | 242B | 3 |  |  |  |  | Humanities Elective |  |  | 3 |  |  |  |
| Quant. Analysis Lab  | SCHE | 243B | 1 |  |  |  |  | Social Science Elective  |  |  | 3 |  |  |  |
| Intro to African Am. Lit. | SENL | 240B | 3 |  |  |  |  | Service Learning | SVLR | 100B | 1 |  |  |  |
| ***Intro to Chemical Eng.*** | ***CHE*** | ***1100*** | ***1*** |  |  |  |  |  |  |  |  |  |  |  |
| **Total** |  |  | **16** |  |  |  |  | **Total** |  |  | **16** |  |  |  |

**Third Year at SU (Cross-register at LSU)**

|  |  |  |
| --- | --- | --- |
| First Semester |  | Second Semester |
| **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |  | **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |
| Physical Chemistry Lec I | CHEM | 312B | 3 |  |  |  |  | Physical Chemistry Lec II | CHEM | 313B | 3 |  |  |  |
| Physical Chemistry Lab I | CHEM | 314B | 1 |  |  |  |  | Physical Chemistry Lab II | CHEM | 315B | 1 |  |  |  |
| History Seq. I |  |  | 3 |  |  |  |  | History Seq. II |  |  | 3 |  |  |  |
| Foreign Language Seq. I |  |  | 3 |  |  |  |  | Foreign Language Seq. II |  |  | 3 |  |  |  |
| Arts Elective |  |  | 3 |  |  |  |  | Service Learning | SVLR | 300B | 1 |  |  |  |
| Service Learning | SVLR | 200B | 1 |  |  |  |  | ***Num. Methods & Prog.*** | ***CHE*** | ***2176*** | ***4*** |  |  |  |
| ***Mat. & Energy Balances*** | ***CHE*** | ***2171*** | ***4*** |  |  |  |  | ***Chem. Eng. Thermo.*** | ***CHE*** | ***2172*** | ***3*** |  |  |  |
| **Total** |  |  | **18** |  |  |  |  | **Total** |  |  | **18** |  |  |  |

**Fourth Year at LSU (Cross-register at SU)**

|  |  |  |
| --- | --- | --- |
| First Semester |  | Second Semester |
| **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |  | **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |
| ***Materials of Eng. (LSU)*** | ***ME*** | ***2733*** | ***3*** |  |  |  |  | ***Eng. Measurements Lab*** | ***CHE*** | ***3104*** | ***3*** |  |  |  |
| ***Momentum Transfer*** | ***CHE*** | ***3101*** | ***3*** |  |  |  |  | ***Heat & Mass Transfer*** | ***CHE*** | ***3102*** | ***4*** |  |  |  |
| ***Intro. Des. and Proc. Saf.*** | ***CHE*** | ***3171*** | ***3*** |  |  |  |  | ***Chem. React. Eng.*** | ***CHE*** | ***3190*** | ***3*** |  |  |  |
| ***Hetero. Equilibrium*** | ***CHE*** | ***3173*** | ***3*** |  |  |  |  | ***Gen. ChE Tech. Elec. I\**** |  |  | ***3*** |  |  |  |
| Inorganic Chemistry Lec | CHEM | 443B | 3 |  |  |  |  | Principles of Economics | SECO | 211B | 3 |  |  |  |
| Inorganic Chemistry Lab | CHEM | 440B | 2 |  |  |  |  | Health/Phys Ed Elective |  |  | 2 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Total** |  |  | **17** |  |  |  |  | **Total** |  |  | **18** |  |  |  |

**Fifth Year**

|  |  |  |
| --- | --- | --- |
| First Semester |  | Second Semester |
| **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |  | **Course Name** | **Dept** | **No** | **Cr** | **Grd** | **Sem** | **Yr** |
| ***Unit Operations Lab*** | ***CHE*** | ***4162*** | ***3*** |  |  |  |  | Instrm. Analysis Lec/Lab | CHEM | 450B | 4 |  |  |  |
| ***Unit Operations Design*** | ***CHE*** | ***4151*** | ***4*** |  |  |  |  | Chemical Research II | CHEM | 423B | 2 |  |  |  |
| ***Process Dynamics*** | ***CHE*** | ***4198*** | ***3*** |  |  |  |  | ***Process Design*** | ***CHE*** | ***4172*** | ***4*** |  |  |  |
| ***Gen. ChE Tech. Elec. II\**** |  |  | ***3*** |  |  |  |  | ***Gen. ChE Tech. Elec. III\**** |  |  | ***3*** |  |  |  |
| Chemical Research I | CHEM | 422B | 2 |  |  |  |  | ***Gen. ChE Tech. Elec. IV\**** |  |  | ***3*** |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Total** |  |  | **15** |  |  |  |  | **Total** |  |  | **16** |  |  |  |

**\*General ChE Technical Electives**

The ChE curriculum requires students to take 12 credit-hours of technical electives for students whose catalog year is 2020-2021 or later. Six credit-hours must be ChE electives (Group A). The remaining six credit-hours can be made up of ChE electives (Group A), approved technical electives from other departments (Group B), or a combination of ChE electives and approved technical electives from other departments (Group A or Group B). Prerequisites listed in parentheses.

**Group A – Chemical Engineering Technical Electives**

CHE 3410: Sustainability in Chemical Engineering (3)

CHE 3900: Independent Research I (3)

CHE 3901: Independent Research II (3)

CHE 3910: Honors Independent Research I (3)

CHE 3911: Honors Independent Research II (3)

CHE 4210: Industrial Catalysis (3)

CHE 4220: Genetic Engineering (3)

CHE 4221: Chemical Engineering Project I (1)

CHE 4222: Chemical Engineering Project II (2)

CHE 4230: Advanced Process Control Systems (3)

CHE 4253: Introduction to Industrial Pollution Control (3)

CHE 4260: Biochemical Engineering (3)

CHE 4263: Environmental Chemodynamics (3)

CHE 4270: Processing of Advanced materials (3)

CHE 4272: Chemical Processing of nanomaterials (3)

CHE 4275: Electrochemical Engineering (3)

CHE 4285: Principles of High Polymers (3)

CHE 4410: Special Topics in Chemical Engineering Design (3)

CHE 4420: Special Topics in Chemical Engineering Science (3)

CHE 4425: Colloids and Interfacial Engineering (3)

CHE 4480: Technical Leadership in Chemical Engineering (3)

CHE 4488: Process Separations Design and Synthesis (3)

**Group B – Approved Technical Electives**

**Chemical Engineering**

All ChE Group A Electives

CHE 3249: Co-op in the Chemical Engineering Industry (3)

**Biological Engineering**

BE 3340: Process Design in Biological Engineering (3)

Any 4000-level Biological Engineering Course

**Biology**

BIOL 2051: General Microbiology (4) (BIOL 1202, BIOL 1209 and CHEM 1202)

BIOL 2083: The Elements of Biochemistry (3) (CHEM 2060 or CHEM 2261)

BIOL 2153: Principles of Genetics (4) (BIOL 1202, BIOL 1209, and enrollment or credit in CHEM 1202)

BIOL 3060: Introductory Plant Physiology (4) (BIOL 1202 and BIOL 1209; CHEM 2060, 2261, or 2461)

BIOL 3090: Cell Biology (3) (BIOL 2153 and CHEM 2262)

BIOL 4087: Basic Biochemistry (4) (BIOL 2153 and CHEM 2262 or CHEM 2462)

BIOL 4093: General Biochemistry (3) (BIOL 2153 and CHEM 2262 or CHEM 2462)

BIOL 4110: Introductory Microbial Physiology (3) (BIOL 2051 and CHEM 2261 or CHEM 2461)

**Chemistry**

CHEM 3491: Physical Chemistry I (3)

Any 4000-level Chemistry Course

**Civil Engineering**

CE 2450: Statics (3)

CE 3400: Mechanics of Materials (3) (CE 2450)

CE 3415: Structural Analysis I (3) (CE 3400)

Any 4000-level Civil Engineering Course

**Electrical Engineering**

EE 2950: Comprehensive Electrical Engineering (3)

Any 4000-level Electrical Engineering Course

**Environmental Engineering**

EVEG 3110: Water and Wastewater Treatment (3) (CE 2200 or consent)

EVEG 3145: Environmental Engineering III (3) (CHEM 2060 or CHEM 2261)

Any 4000-level Environmental Engineering Course

**Mechanical Engineering**

Any 4000-level Mechanical Engineering Course

**Physics**

Any 4000-level Physics course

**Students are required to earn a grade of “C” or better in all Major (Chem and ChE), ENGL, MATH, PHYS and BIOL courses. Student cumulative GPA must be a 2.0 or higher.**

**CSE, 04/2024**