# CHEMISTRY MAJOR +/- ACS CERTIFICATION- Industrial/Materials Conentration: 4 Year Plan

Chem Credit 36-41 w/o ACS, 43-48 with ACS; Total Credits 52-57 w/o ACS, 59-64 with ACS

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| **COURSES: INTRO/FDN** | **LABS: FDN/IN-DEPTH** | **INDEPTH** | **ADDITIONAL CHEM** | |
| CHEM 125 (4) F, Sp  Intro Chem Struct/Prop | CHEM 201 (0,1) F, Sp  Purif/Struct | CHEM 345 required (2)  Indust & Engineer Process | CHEM 349  (0,1) F, Sp | CHEM XXX  (0) Sp Sr Yr |
| CHEM 250 (4) F, Sp  Rx Nucleo/Electro I (R1) | CHEM 202 (0,1) F, Sp  Purif/Chroma | CHEM 346 OR 362 (2)  Nanomaterials OR Polymers | **SUPPORTING COURSES** | |
| CHEM 251 (4) F, Sp  Rx Nucleo/Electro 2 (R2) | CHEM 203 (0,1) F, Sp  Synthesis | CHEM 3IM(2)  Indust/Mat Elective | MATH 119 (4) F, Sp  Calculus 1 | |
| CHEM 255 (4) F, Sp  Macro Chem Analysis | CHEM 205 (0,1) F, Sp  Measurement | CHEM 3IM (2)  Indust/Mat Elective | MATH 120 (4) F, Sp  Calculus 2 | |
| CHEM 315 (4) F, Sp  Advanced Reactivity (R3) | CHEM 304 (1) F, Sp  Method D & V | **CAPSTONE** | PHYS 105 (4) or 191 (4) F | |
| CHEM 318 (4) Sp  Micro Chem Analysis | CHEM 306 (1) F, Sp  Advanced Lab | CHEM 360 (2) Sp  Capstone Research, EL | PHYS 106 (4) or 200 (4) Sp | |
| **ADDITIONAL FOR ACS CERTIFICATION** | | | | |
| CHEM 3XX (2)  Any Elective | CHEM 3XX (2)  Any Elective | CHEM 306 (1) F,S  Advanced Lab | CHEM 330 (2) F  Lab Research | |

* Industrial/Materials electives, CHEM 3IM, are listed on back.
* Appropriate courses from other departments approved by the Chemistry Department may count toward a environmental chemistry elective.

EXAMPLE SCHEDULE FOR Industrial/Materials CONCENTRATION **WITH ACS CERTIFICATION**

Fall, \_\_\_YR 1\_\_\_\_\_\_\_\_\_\_\_\_ Spring, \_\_YR 1\_\_\_\_\_\_\_\_\_\_\_\_

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| **4 CREDIT COURSES** | **0,1 CREDIT LABS** | **4 CREDIT COURSES** | **0,1 CREDIT LABS** |
| CHEM 125 (4) | CHEM 201 (0,1) | CHEM 250 (4) | CHEM 202 (0,1) |
| FYS (4) |  | FYS (4) |  |
| LANG (4) |  | LANG (4) |  |
|  |  |  |  |

Fall, \_\_ YR 2\_\_\_\_\_\_\_\_\_\_\_\_\_ Spring, \_YR 2\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **4 CREDIT COURSES** | **0,1 CREDIT LABS** | **4 CREDIT COURSES** | **0,1 CREDIT LABS** |
| CHEM 251 (4) | CHEM 203 (0,1) | CHEM 255 (4) | CHEM 205 (0,1) |
| SS (4) |  | CHEM 315 (4) | CHEM 349 (0,1) |
| PHYS 105 or 191 (4) |  | PHYS 106 or 200 (4) |  |
| MATH 119 (4) |  | MATH 120 (4) |  |

Fall, \_\_\_YR 3\_\_\_\_\_\_\_\_\_\_\_\_ Spring, \_\_\_YR 3\_\_\_\_\_\_\_\_\_\_\_

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| **4 CREDIT COURSES** | **0-2 CREDIT COURSES** | **4 CREDIT COURSES** | **0-2 CREDIT COURSES** |
| HUM (4) | CHEM 304 (1) | CHEM 318 (4) | CHEM 3IM OR 3XX (2) |
|  | CHEM 306 (1) | THEO–L (4) | CHEM 3IM OR 3XX (2) |
|  |  | HUM (4) | CHEM 306 (1) |
|  |  |  |  |

Fall, \_\_\_YR 4\_\_\_\_\_\_\_\_\_\_\_\_ Spring, \_\_\_\_YR 4\_\_\_\_\_\_\_\_\_\_

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| **4 CREDIT COURSES** | **0-2 CREDIT COURSES** | **4 CREDIT COURSES** | **0-2 CREDIT COURSES** |
| THEO-U (4) | CHEM 3IM OR 3XX (2) | FA (4) | CHEM 3IM OR 3XX (2) |
| ETHICS (4) | CHEM 3IM OR 3XX (2) |  | CHEM 3IM OR 3XX (2) |
|  | CHEM 330 (2) |  | CHEM 360 (2) EL |
|  |  |  | CHEM XXX (0) |

Common Curriculum Requirements

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| FA | SS | FYS | Ethics |
| HUM | THEO–L | Language | Intercultural |
| HUM | THEO-U | Gender | Experiential (EL) |