**Purdue Northwest Curriculum Document Coversheet**

|  |  |  |  |
| --- | --- | --- | --- |
| **Document No:**  (According to [Instruction](http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/)s[[1]](#footnote-1)) | CES 18-03 REV CONCEN FORENSIC SCIENCE | **Approval by Faculty Senate:**  (Leave Blank) | 12/14/18 |
| **Proposed Effective Date** | Spring 2019 | **Date Reviewed by Senate Curriculum**  **Committee:**  (Leave blank) | 11/9/18 |
| **Submitting Department:**  (Name of both Dept & College/School ) | Chemistry & Physics Department  College of Engineering and Sciences | **Name(s) of Library Staff Consulted:**  (NA if not required) |  |
| **Date Reviewed by Department** | September 21, 2018 |  |  |
| **Submission Date:**  (Date sent to College/School Curr Comm after Dept Review) |  | **Will New Library**  **Resources Used?** | **Yes** **No**  Double-click to check Yes / No. |
| **Date Reviewed by College/School Curriculum Committee** |  | **Form 40 Needed?**  (Double-click one box.)  Registrar will complete Form 40 **after** Senate approval of document. | **Yes** New courses or any course change, check **YES**  **No** For **all other** curriculum matters, check **NO**. |
| **Contact Person(s):**  (Name & Title) | Purna Das, Department Head |  |  |

Unless marked “Leave blank” all parts of this form must be filled in **before** sending to Secretary of the Faculty Senate.

|  |
| --- |
| **Task (check all that apply and fill out sections appropriate for each change).**  Program/Concentration Change or New Program/Concentration Proposal: Complete Section I, III, & IV  Minor Change or New Minor Proposal: Complete Section I (delete sections III & IV)  Certificate Change or New Certificate Proposal: Complete Section I (delete sections III & IV)  Course Change or New Course Proposal: Complete Section II (delete sections III & IV) |
| **Program name**. Physical Sciences – Forensic Science Concentration |
| **Degree name(s).** (If applicable.) Bachelor of Science |

## Section I: This section is for changes in programs, minors and certificates

|  |
| --- |
| **List the major changes in each program of study, minor or certificate.**  Minor corrections to the Freshman Orientation and Seminar Courses offerings. |
| **Impact on Students.** (State “N/A” if proposal will not greatly affect students.)  Students will have the flexibility to choose either CHM or PHYS Freshman Orientation or Seminar courses. |
| **Impact on University Resources.** (State “N/A” if proposal will not require new resources, faculty or funds.)  N/A |
| **Impact on other Academic Units.** (State “N/A” if proposal will not affect other units.)(Include name of person in affected area discussed with)  N/A |

## Section II: This section is for changes in courses only

|  |
| --- |
| **Subject.** (Brief description of proposed change, addition or deletion.) |
| **Justification.** (Briefly list main reasons for proposed change, addition or deletion.) |

Use the **Current** and **Proposed** spaces below for course changes only. Otherwise, mark “N/A”

|  |  |  |
| --- | --- | --- |
| **Current:** (Course changes: include entire present catalog information. Leave blank if new course) | | **Proposed:** (Course changes: include entire new catalog information.) |
| **Is this course also:** | **General Education** | **Currently Designated ExL (see** [**instructions[[2]](#footnote-2)**](http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/)**)** |

|  |
| --- |
| **Course Objectives / Learning Outcomes.** (New courses only. List main outcomes. If lengthy, attach separate page.)  1.  2.  3. |
| **Impact on Students.** (State “N/A” if proposal will not greatly affect students.) |
| **Impact on University Resources.** (State “N/A” if proposal will not require new resources, faculty or funds.) |
| **Impact on other Academic Units.** (State “N/A” if proposal will not affect other units.) (Include name of person in affected area this was discussed with.) |

(Boxes will expand and spill over onto next page to accommodate your typing.)

***Document No:***

## Section III: PLAN OF STUDY REVISION

### Degree Name: B.S. Physical Sciences - Forensic Science Concentration

### Degree Requirements

* 120 Credit Hours
* Minimum grade of C- required for all College of Engineering and Sciences courses
* Minimum GPA of 2.0 required for graduation
* Certain courses may only be available at one campus location

### PNW General Education Core

| **Core Categories** | **Credits** | **Courses:** Enter “Select from list” or designate course(s) from list |
| --- | --- | --- |
| English Composition | 6 | Select two courses from the English Composition Core list |
| Speech Communication | 3 | Select from the Speech Communication Core list |
| Quantitative Reasoning | 3 | MA 16031 - Calculus I For Life Sciences or MA 16300 - Integrated Calculus Analysis Geometry I |
| Natural Sciences | 4 | CHM 11500 - General Chemistry |
| Technology | 3 | Select from the Technology Core list |
| Humanities | 3 | PHIL 11100 - Ethics |
| Social Sciences | 3 | PSY 12000 - Elementary Psychology |
| Additional credits | 3 | Any course from the Gen Ed Core list |
| General Ed Elective | 3 | STAT 30100 |
| First-Year Experience (FYE) | 1 | CHM 19400 - Freshman Chemistry Orientation or PHYS 19400 - Freshman Physics Orientation |
| **Total** (minimum) | **32** |  |

### Other Required Courses

**Restricted Elective** 3 credits

Choose from: **CHM** (any course excluding CHM 10000, CHM 10300, CHM 10600, CHM 11100,

CHM 11200, and CHM 19400), **PHYS** (any course 20000 or higher), or forensics oriented **SCI** courses.

See program advisor for a list of available courses.

**Free Electives** 6 credits

Students may choose any two (2) courses to fulfill this requirement.

At least 3 credits of free electives must be 30000 level or higher.

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Total Other Required Courses **9 credits**

### Core: Required Courses

BIOL 10100 - Introductory Biology 4 credits

BIOL 10200 - Introductory Biology 4 credits

BIOL 24400 - Genetics 4 credits

[CHM 11600 - General Chemistry](https://catalog.pnw.edu/preview_program.php?catoid=5&poid=1389&returnto=270) 4 credits

CHM 26505 - Organic Chemistry 3 credits

CHM 26300 - Organic Chemistry Laboratory 1 credits

CHM 26605 - Organic Chemistry 3 credits

CHM 26400 - Organic Chemistry Laboratory 1 credits

CHM 29400 - Sophomore Chemistry Seminar or PHYS 29400 - Sophomore 1 credits

Physics Seminar

CHM 32100 - Analytical Chemistry I 4 credits

CHM 33300 - Principles Of Biochemistry 3 credits

CHM 42400 - Analytical Chemistry II 4 credits

CHM 49400 - Junior-Senior Chemistry Seminar or PHYS 49400 - Junior-Senior 1 credits Physics Seminar

CHM 49800 - Research In Chemistry or PHYS 46900 - Research in Physics (2) 2 credits

MA 16032 - Calculus II For Life Sciences 3 credits

or [MA 16400 - Integrated Calculus Analysis Geometry II](https://catalog.pnw.edu/preview_program.php?catoid=5&poid=1389&returnto=270#tt2902)

PHYS 22000 - General Physic 4 credits

or PHYS 15200 - Mechanics

PHYS 22100 - General Physics 4 credits

or PHYS 25100 - Heat, Electricity, and Optics

PSY 35000 - Abnormal Psychology 3 credits

SCI 22000 - Health And Safety 2 credits

SOC 10000 - Introductory Sociology 3 credits

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Total Core **58 credits**

### Concentration

CRJU 15000 - Introduction To The Criminal Justice System 3 credits

CRJU 32400 - Criminology / [SOC 32400 - Criminology](https://catalog.pnw.edu/preview_program.php?catoid=5&poid=1389&returnto=270#tt501)  3 credits

FIS 14000 - Introduction To Forensic Science: Criminalistics 3 credits

FIS 14005 - Introduction To Forensic Science: Evidence Handling 3 credits

FIS 24500 - Laboratory Quality System Theory 3 credits

FIS 35000 - Courtroom Demeanor 3 credits

FIS 41000 - Professional Practice In Forensic Science 3 credits

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Total Concentration **21 credits**

**Total credits required for baccalaureate degree: \_120\_\_\_\***

**Note**: Students who choose to take MA 16300, MA 16400, PHYS 15200, and PHYS 25100 can reduce their free electives by five (5) credits to meet the 120 credit hour requirement.

**\***For degree programs that require an excess of 120 credit hours, provide explanation and attach documentation, if appropriate.

## Section IV: For all Program Changes;

## Current Semester by Semester

(Delete if new program)

**Requirements**

**Minimum Grade and Grade Point Average (GPA):**  Minimum grade of C- required for all College of Engineering and Sciences courses; 2.0 GPA

**Experiential Learning (EL):**  One EL course required.  EL courses are noted by (e) next to the course title.

**Milestone Courses noted by (m) next to the course title have been identified as being critical to your success in this field of study.**

Courses that are only offered on one campus will be noted by an **(H)** for Hammond, or **(W)** for Westville.

Please see the Additional Information and Guidelines section below for more information.

Semester One **Total Credits = 14**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| General Chemistry | CHM 11500 | X | 4 | C- | MA 15300 |
| Calculus I for Life Sciences | MA 16031 (Also allowed MA 16300 Integrated Calculus Analysis Geometry I.) ( See Note 1) | X | 3 | C- | MA 15300 and MA 15400; or MA 15900; or ALEKS Placement 075 |
| Freshman Experience | CHM 19400 | X | 1 |  |  |
| Intro to Forensic Science: Criminalistics | FIS 14000 |  | 3 | C- |  |
| English Composition 1 | Any Gen Ed English Composition course | X | 3 |  |  |

Semester Two  **Total Credits = 17**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| General Chemistry | CHM 11600 |  | 4 | C- | CHM 11500 |
| Introductory Biology (m) | BIOL 10100 **(m)** |  | 4 | C- | MA 15300 |
| Calculus II for Life Sciences | MA 16032 **(m)** (Also allowed MA 16400 Integrated Calculus Analysis Geometry II.) (See Note 1) |  | 3 | C- | MA 16031 or MA 22300 |
| Intro to Forensic Science: Evidence Handling - **(H)** | FIS 14005 |  | 3 | C- |  |
| English Composition 2 | Any Gen Ed English Composition course | X | 3 |  |  |

Semester Three **Total Credits** **= 14**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Introductory Biology | BIOL 10200 |  | 4 | C- | MA 15300 or BIOL 10100 |
| Organic Chemistry - **Fall Only** | CHM 26505 |  | 3 | C- | CHM 11600 |
| Ethics | PHIL 11100 | X | 3 |  |  |
| Organic Chemistry Lab - **Fall Only** | CHM 26300 |  | 1 | C- | CHM 26505 |
| Introductory Sociology | SOC 10000 |  | 3 | C- |  |

Semester Four **Total Credits** **= 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Sophomore Chemistry Seminar - **Spring Only** | CHM 29400 |  | 1 | C- | CHM 26505 |
| General Physics | PHYS 22000 (Also allowed PHYS 152 Mechanics.) (See Note 1) |  | 4 | C- | MA14700 and MA14800; or, MA15300 and MA 15400 |
| Intro to Criminal Justice System | CRJU 15000 |  | 3 |  |  |
| Organic Chemistry - **Spring Only** | CHM 26605 |  | 3 | C- | CHM 26505 |
| Organic Chemistry Lab - **Spring Only** | CHM 26400 |  | 1 | C- | CHM 26300 and CHM 26605 |
| Laboratory Quality Systems Theory - **(H)** | FIS 24500 |  | 3 | C- |  |

Semester Five **Total Credits** **= 16**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| General Physics | PHYS 22100 (Also allowed PHYS 25100 Heat, Electricity, and Optics.) (See Note 1) |  | 4 | C- | PHYS 22000 |
| Elementary Psychology | PSY 12000 | X | 3 |  |  |
| Elementary Statistical Methods | STAT 30100 |  | 3 |  | MA 14700 or MA 15200 or MA 15300 or MA 21300 |
| Speech Communication | Any Gen Ed Speech Communication course | X | 3 |  |  |
| Free Elective | Choose Any Elective |  | 3 |  |  |

Semester Six **Total Credits = 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Biochemistry | CHM 33300 |  | 3 | C- | CHM 26505 or CHM 25500; and CHM 26605 or CHM 25600 |
| Abnormal Psychology | PSY 35000 |  | 3 |  |  |
| Health and Safety - **Spring Only** | SCI 22000 |  | 2 | C- | CHM 11600 |
| Courtroom Demeanor - **(H) Spring Only (even years)** | FIS 35000 |  | 3 | C- |  |
| Restricted Elective | See Note 2 |  | 3 | C- |  |

Semester Seven **Total Credits** **= 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Analytical Chemistry I - **Fall Only** | CHM 32100 |  | 4 | C- | CHM 11600 |
| Research in Chemistry **(e)** | CHM 49800 **(e)** |  | 1 | C- | Min of 75 SCH (Junior Classification) |
| Genetics - **Fall Only** | BIOL 24400 |  | 4 | C- | BIOL 10100, 10200 & CHM 11600 |
| Professional Practice in Forensic Science - **(H)** | FIS 41000 |  | 3 | C- |  |
| Technology Elective | Any Gen Ed Technology course | X | 3 |  |  |

Semester Eight **Total Credits** **= 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Junior-Senior Chemistry Seminar - **(H) Spring Only** | CHM 49400 |  | 1 | C- | CHM 29400 and CHM 49800 |
| Research In Chemistry **(e)** | CHM 49800 **(e)** |  | 1 | C- | Min of 75 SCH (Junior Classification) |
| Analytical Chemistry II - **(H) Spring Only (even years)** | CHM 42400 |  | 4 | C- | CHM 32100 |
| Criminology - **(H) Spring Only** | CRJU 32400 / SOC 32400 |  | 3 |  | SOC 10000 |
| Gen Ed Elective | Any course from Gen Ed Core list | X | 3 |  |  |
| Free Elective | Any Elective |  | 3 |  |  |

Notes:

***Additional Information and Guidelines***

Upper division chemistry and physics courses are offered on a two year rotation. Contact an advisor to determine the specific semester a particular course will be offered. Certain courses may only be available at one campus location.

Any individual course within CES must be a C- or better, but the avg. G.P.A. for all disciplinary courses (CHM or PHYS courses) must be at least 2.50. At least 3 credit hours of Free Electives must be 30000 level or higher.

**Note 1**: Students who choose to take MA 16300, MA 16400, PHYS 15200, and PHYS 25100 can reduce their free electives by five (5) credits to meet the 120 credit hour requirement.

**Note 2**: Restrictive Elective – CHM (any course excluding CHM 10000, CHM 10300, CHM 10600, CHM 11100,

CHM 11200, and CHM 19400), PHYS (any course 20000 or higher), or forensics oriented SCI courses.

See program advisor for a list of available courses.

## Section IV continued: For all Program Changes;

## Proposed Semester by Semester

**Requirements**

**Minimum Grade and Grade Point Average (GPA):**  Minimum grade of C- required for all College of Engineering and Sciences courses; 2.0 GPA

**Experiential Learning (EL):**  One EL course required.  EL courses are noted by (e) next to the course title.

**Milestone Courses noted by (m) next to the course title have been identified as being critical to your success in this field of study.**

Courses that are only offered on one campus will be noted by an **(H)** for Hammond, or **(W)** for Westville.

Please see the Additional Information and Guidelines section below for more information.

Semester One **Total Credits = 14**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| General Chemistry | CHM 11500 | X | 4 | C- | MA 15300 |
| Calculus I for Life Sciences | MA 16031 (Also allowed MA 16300 Integrated Calculus Analysis Geometry I.) ( See Note 1) | X | 3 | C- | MA 15300 and MA 15400; or MA 15900; or ALEKS Placement 075 |
| Freshman Experience | CHM 19400 (Also allowed PHYS 19400 - Freshman Physics Orientation) | X | 1 |  |  |
| Intro to Forensic Science: Criminalistics | FIS 14000 |  | 3 | C- |  |
| English Composition 1 | Any Gen Ed English Composition course | X | 3 |  |  |

Semester Two  **Total Credits = 17**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| General Chemistry | CHM 11600 |  | 4 | C- | CHM 11500 |
| Introductory Biology **(m)** | BIOL 10100 **(m)** |  | 4 | C- | MA 15300 |
| Calculus II for Life Sciences **(m)** | MA 16032 **(m)** (Also allowed MA 16400 Integrated Calculus Analysis Geometry II.) (See Note 1) |  | 3 | C- | MA 16031 or MA 22300 |
| Intro to Forensic Science: Evidence Handling - **(H)** | FIS 14005 |  | 3 | C- |  |
| English Composition 2 | Any Gen Ed English Composition course | X | 3 |  |  |

Semester Three **Total Credits** **= 14**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Introductory Biology | BIOL 10200 |  | 4 | C- | MA 15300 or BIOL 10100 |
| Organic Chemistry - **Fall Only** | CHM 26505 |  | 3 | C- | CHM 11600 |
| Ethics | PHIL 11100 | X | 3 |  |  |
| Organic Chemistry Lab - **Fall Only** | CHM 26300 |  | 1 | C- | CHM 26505 |
| Introductory Sociology | SOC 10000 |  | 3 | C- |  |

Semester Four **Total Credits** **= 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Sophomore Chemistry Seminar - **Spring Only** | CHM 29400 (Also allowed PHYS 29400 - Sophomore Physics Seminar) |  | 1 | C- | CHM 26505 |
| General Physics | PHYS 22000 (Also allowed PHYS 152 Mechanics.) (See Note 1) |  | 4 | C- | MA14700 and MA14800; or, MA15300 and MA 15400 |
| Intro to Criminal Justice System | CRJU 15000 |  | 3 |  |  |
| Organic Chemistry - **Spring Only** | CHM 26605 |  | 3 | C- | CHM 26505 |
| Organic Chemistry Lab - **Spring Only** | CHM 26400 |  | 1 | C- | CHM 26300 and CHM 26605 |
| Laboratory Quality Systems Theory - **(H) Spring Only (odd years)** | FIS 24500 |  | 3 | C- |  |

Semester Five **Total Credits** **= 16**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| General Physics | PHYS 22100 (Also allowed PHYS 25100 Heat, Electricity, and Optics.) (See Note 1) |  | 4 | C- | PHYS 22000 |
| Elementary Psychology | PSY 12000 | X | 3 |  |  |
| Elementary Statistical Methods | STAT 30100 | X | 3 |  | MA 14700 or MA 15200 or MA 15300 or MA 21300 |
| Speech Communication | Any Gen Ed Speech Communication course | X | 3 |  |  |
| Free Elective | Choose Any Elective |  | 3 |  |  |

Semester Six **Total Credits = 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Biochemistry | CHM 33300 |  | 3 | C- | CHM 26505 or CHM 25500; and CHM 26605 or CHM 25600 |
| Abnormal Psychology | PSY 35000 |  | 3 |  |  |
| Health and Safety - **Spring Only** | SCI 22000 |  | 2 | C- | CHM 11600 |
| Courtroom Demeanor - **(H) Spring Only (even years)** | FIS 35000 |  | 3 | C- |  |
| Restricted Elective | See Note 2 |  | 3 | C- |  |

Semester Seven **Total Credits** **= 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Analytical Chemistry I - **Fall Only** | CHM 32100 |  | 4 | C- | CHM 11600 |
| Research in Chemistry **(e)** | CHM 49800 **(e)** (Also allowed PHYS 46900 - Research in Physics) |  | 1 | C- | Min of 75 SCH (Junior Classification) |
| Genetics - **Fall Only** | BIOL 24400 |  | 4 | C- | BIOL 10100, 10200 & CHM 11600 |
| Professional Practice in Forensic Science - **(H) Fall Only (even years)** | FIS 41000 |  | 3 | C- |  |
| Technology Elective | Any Gen Ed Technology course | X | 3 |  |  |

Semester Eight **Total Credits** **= 15**

| **Program Requirements : Designate Program Requirement** | **Subject Code/Course Number** | **(GenEd)**  **Yes=X** | **Credits**  **Number** | **Min Grade** | **Prerequisites** |
| --- | --- | --- | --- | --- | --- |
| Junior-Senior Chemistry Seminar - **(H) Spring Only** | CHM 49400 (Also allowed PHYS 49400 - Junior-Senior Physics Seminar) |  | 1 | C- | CHM 29400 and CHM 49800 |
| Research In Chemistry **(e)** | CHM 49800 **(e)** (Also allowed PHYS 46900 - Research in Physics) |  | 1 | C- | Min of 75 SCH (Junior Classification) |
| Analytical Chemistry II - **(H) Spring Only (even years)** | CHM 42400 |  | 4 | C- | CHM 32100 |
| Criminology - **(H) Spring Only** | CRJU 32400 / SOC 32400 |  | 3 |  | SOC 10000 |
| Gen Ed Elective | Any course from Gen Ed Core list | X | 3 |  |  |
| Free Elective | Any Elective |  | 3 |  |  |

Notes:

***Additional Information and Guidelines***

Upper division chemistry and physics courses are offered on a two year rotation. Contact an advisor to determine the specific semester a particular course will be offered. Certain courses may only be available at one campus location.

Any individual course within CES must be a C- or better, but the avg. G.P.A. for all disciplinary courses (CHM or PHYS courses) must be at least 2.50. At least 3 credit hours of Free Electives must be 30000 level or higher.

**Note 1**: Students who choose to take MA 16300, MA 16400, PHYS 15200, and PHYS 25100 can reduce their free electives by five (5) credits to meet the 120 credit hour requirement.

**Note 2**: Restrictive Elective – CHM (any course excluding CHM 10000, CHM 10300, CHM 10600, CHM 11100,

CHM 11200, and CHM 19400), PHYS (any course 20000 or higher), or forensics oriented SCI courses.

See program advisor for a list of available courses.

1. <http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/> [↑](#footnote-ref-1)
2. <http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/> [↑](#footnote-ref-2)