

# ENSP – Environmental Geosciences & Restoration

Effective -- Fall 2016

Reviewed 9.1.16 - WW

| ENSP Core   |  |  |        | General Education  |        |            |        |
|---|--|--|--------|--|--------|------------|--------|
| Course  |  |  |        | Fundamental Studies (15 credits)   |        |            |        |
| Title   |  |  |        | Requirements   | Course | Cr         |        |
| Offered   |  |  |        | Academic Writing (AW)  |        |            |        |
| Grade   |  |  |        | 3  |        |            |        |
| All<br>ENSP101 (NS)<br>ENSP102 (HS)<br>ENSP400 (SP)   |  |  |        | Professional Writing (PW)  |        |            |        |
|   |  |  |        | 3  |        |            |        |
|   |  |  |        | Oral Communication (OC)  |        |            |        |
| Applied Science and Policy (one)<br>ENSP305<br>ENSP330<br>ENSP340<br>ENSP342<br>ENSP350   |  |  |        | Math (MA)  |        |            |        |
|   |  |  |        | Calculus   |        | 3-4        |        |
|   |  |  |        | Analytical Reasoning (AR)  |        | Statistics |        |
|   |  |  |        | Distributive Studies (25 credits)  |        |            |        |
|   |  |  |        | Requirements   |        |            | Course |
| Calculus (one)<br>MATH140 (MA)  |  |  |        | Natural Sciences w/Lab (NL)  |        |            |        |
|   |  |  |        | ENSP Lab Sci   |        | 4          |        |
| Statistics (one)<br>BIOM301 (AR)<br>GEOG306 (AR)<br>PSYC200 (AR)  |  |  |        | Natural Science (NS)   |        |            |        |
|   |  |  |        | ENSP 101   |        | 3          |        |
| One course from <u>each</u> of the following:<br><br>Biology (req'd)<br>BSCI160/161 (NL)<br><br>Chemistry (req'd)<br>CHEM131/132 (NL)<br><br>Earth Sci (req'd, both)<br>GEOL100/110 (NL) <i>or</i><br>GEOL120/110 (NL)<br><i>and</i><br>ENST200 (NL)<br><br>Economics (one)<br>AREC240 (HS)<br>AREC241 (HS, IS)<br>ECON200 (HS) |  |  |        | History and/or Social Sci (HS1)  |        |            |        |
|   |  |  |        | ENSP 102   |        | 3          |        |
|   |  |  |        | History and/or Social Sci (HS2)  |        |            | 4      |
|   |  |  |        | Humanities (HU1)   |        |            | 3      |
|   |  |  |        | Humanities (HU2)   |        |            | 3      |
|   |  |  |        | Scholarship in Practice (SP, major)                                      |        | ENSP 400   | 3      |
|   |  |  |        | Scholarship in Practice (SP, non-major)                                  |        |            | 3      |
|   |  |  |        | I-Series (6 credits)*  |        |            |        |
|   |  |  |        | * May double-count with Distributive Studies                             |        |            |        |
|   |  |  |        | Requirements   |        |            | Course |
| I- Series (IS)  |  |  |        | 3  |        |            |        |
| I- Series (IS)  |  |  |        | 3  |        |            |        |
| Diversity (4-6 credits)*  |  |  |        |  |        |            |        |
| * May double-count with Distributive Studies  |  |  |        |  |        |            |        |
| Requirements  |  |  | Course | Cr   |        |            |        |
| Understanding Plural Societies (UP)   |  |  |        | 3-6  |        |            |        |
| Understanding Plural Societies (UP) <i>or</i> Cultural Competency (CC)  |  |  |        | 0-3  |        |            |        |
| Experiential Learning (0-3 credits)*  |  |  |        |  |        |            |        |
| * May overlap with major requirements   |  |  |        |  |        |            |        |
| Requirements  |  |  | Course | Cr   |        |            |        |
| Practical experience is <i>required</i> in this concentration   |  |  |        |  |        |            |        |
| ENSP Graduation Requirements  |  |  |        | Graduation Requirements  |        |            |        |
| _____ Students must earn <u>C- or higher</u> in all courses used for ENSP Core and Concentration requirements.  |  |  |        | _____ <u>Up to 6 AP courses may</u> be used for Gen Ed                   |        |            |        |
| _____ Students' major GPA must be 2.0 or higher.  |  |  |        | _____ There are <b>at least</b> 40 <u>non-overlapping Gen Ed</u> credits |        |            |        |
|   |  |  |        | _____ No more than 60 credits earned from Community College              |        |            |        |
|   |  |  |        | _____ Last 30 credits must be earned at Maryland                         |        |            |        |
|   |  |  |        | _____ 120+ cumulative credits <i>and</i> 2.0+ cum GPA                    |        |            |        |

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### BASIC SCIENCES (12 credits)

| Course                           | Description   | Cr       | Offered | Prerequisites                | Grade |
|----------------------------------|---|----------|---------|------------------------------|-------|
| CHEM 231/232                     | Organic Chemistry I   | 4        | Sp,F,Su | CHEM 131/132                 |       |
| MATH141                          | Calculus II   | 4        | Sp,F,Su | MATH140                      |       |
| PHYS141 <i>or</i><br>PHYS161/174 | Principles of Physics<br>Gen Physics: Mech and Part Dyn<br>& Physics laboratory intro | 4<br>3/1 |         | no longer offered<br>MATH141 |       |

UPPER LEVEL REQUIREMENTS (17 credits): **Note that it's not possible to take all three of GEOL451, 452 and 453 during the same semester. Please consult with your EGR advisor ASAP after declaring this concentration to schedule your courses appropriately.**

|                              |  |        |         |   |  |
|------------------------------|--|--------|---------|---|--|
| BSCI 361                     | Principles of Ecology                        | 4      | F,W,Sp  | BSCI 160/161  |  |
| GEOL 340                     | Geomorphology                                | 4      | Sp      | GEOL 100/110  |  |
| GEOL451 <i>or</i><br>GEOL452 | Groundwater<br>Watershed & Wetland Hydrology | 3<br>3 | F<br>F  | CHEM 131/132, GEOL100/110,<br>MATH141<br>Jr. standing |  |
| GEOL453                      | Princ and Prac of Ecosys Rest                | 3      | F       | MATH220 or 140; GEOL100 or 120, or<br>ENST200.        |  |
| ENSP 386                     | Internship                                   | 3      | F,Sp,Su | Approved internship proposal                          |  |

AREAS OF DEPTH - **at least 5 classes and 15 credits**, including \_\_\_\_\_ a minimum of **6** cr from each of **two** areas  
**- or -** \_\_\_\_\_ a minimum of **9** cr in **one** area

| Course   | Description   | Cr                                      | Offered                                     | Prerequisites   | Grade  |
|--|---|---|---|---|--|
| Techniques and Application:<br>GEOG372<br>GEOG373  | Remote Sensing<br>Geographic Info Systems   | 3<br>3                                  | F,W,Sp,Su<br>F,W,Sp,Su                      |   | _____<br>_____   |
| Environmental Restoration:<br>ENST 414<br>ENST 421<br>ENST 422<br>ENST 423<br>ENST 430<br>ENST 450<br>ENST452<br>PLSC471 | Soil Morph Genesis and Classif.<br>Soil Chemistry<br>Soil Biochem & Microbial Ecol.<br>Soil-Water Pollution<br>Wetland Soils<br>Wetland Ecology<br>Wetland Creation and Restoration<br>Forest Ecology | 4<br>4<br>3<br>3<br>3<br>3<br>3<br>3    | F<br>Sp<br>Sp<br>F<br>Sp<br>F<br>Sp<br>Sp   | ENST 200<br>ENST 200<br>ENST 200<br>ENST 200<br>ENST 200<br>BIOM301<br>BSCI 160/161; BSCI362, ENST360, or<br>ENST450<br>BSCI 160/161  | _____<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____ |
| Surficial Geology:<br>GEOL 322<br>GEOL 342<br>GEOL 436<br><br>GEOL 437<br>GEOL 444<br><br>GEOL451*<br>GEOL452*           | Mineralogy<br>Sedimentation and Stratigraphy<br>Biogeochemistry<br><br>Global Climate Change Past/Pres.<br>Low-Temperature Geochemistry<br><br>Groundwater*<br>Watershed & Wetland Hydro*             | 4<br>4<br>3<br><br>3<br>4<br><br>3<br>3 | Sp<br>Sp<br>F<br><br>Sp<br>F<br><br>Sp<br>F | GEOL100/110, CHEM 131/132<br>GEOL 322<br>GEOL 100/110, CHEM 131/132,<br>GEOL322, and MATH 140 or 220<br>CHEM131/132, GEOL100, and MATH115<br>CHEM131/132, GEOL 100/110, GEOL<br>322, and MATH115<br>CHEM 131/132, GEOL100/110<br>Jr. standing | _____<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____<br>_____ |
| * If not taken to satisfy upper level requirement above  |   |   |   | <i>Continued...</i>   |  |

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| Course                 | Description                   | Cr | Offered | Prerequisites  | Grade |
|------------------------|-------------------------------|----|---------|--|-------|
| Deep-Earth<br>Geology: |                               |    |         |  |       |
| GEOL102                | Historical Geology            | 4  | Sp      | GEOL100 or GEOL120                                   | _____ |
| GEOL341                | Structural Geology            | 4  | F       | GEOL102  | _____ |
| GEOL423                | Optical Mineralogy            | 3  | F       | GEOL100 or GEOL120, GEOL322,<br>CHEM131/132          | _____ |
| GEOL443                | Petrology                     | 4  | Sp      | GEOL100 or GEOL120, GEOL322,<br>GEOL423, CHEM131/132 | _____ |
| GEOL445                | High-Temperature Geochemistry | 4  | F       | MATH115; GEOL100; GEOL322;<br>CHEM131 and CHEM132    | _____ |
| GEOL446                | Geophysics                    | 3  | F       | MATH140, MATH141                                     | _____ |
| GEOL455                | Marine Geophysics             | 3  | F       | GEOL100 or GEOL120, MATH141,<br>PHYS141 or PHYS161   | _____ |
| GEOL456                | Engineering Geology           | 3  | Sp      | GEOL100 or GEOL120, MATH141,<br>PHYS141 or PHYS161   | _____ |
| GEOL457                | Seismology                    | 3  | Sp      | GEOL100 or GEOL120, MATH141                          | _____ |