

## **Ph.D. Environment Degree Curricular Description**

This document contains a description of the courses completed as part of the graduate studies at Duke University from 2016 to 2022. Courses taken before 2018 contributed towards a master-on-route degree (M.A. Environment).

**Table 1.** Curriculum completed during the 2016-2022 period as part of the requisites for the Doctor of Philosophy degree.

| Fall 2016    |         |   |             |
|--------------|---------|---|-------------|
| #            | Code    | Name  | Credits     |
| 1            | BIO 701 | Graduate School 101                               | 0.5         |
| 2            | ENE 795 | Modeling Tools for Energy System Analysis         | 3           |
| 3            | ENV 559 | Fundamentals of GIS and Geospatial Analysis       | 4           |
| 4            | ENV 711 | Energy and Environment                            | 3           |
| 5            | ENV 716 | Energy Systems Modeling                           | 3           |
| 6            | GS 710  | Responsible Conduct of Research (Campus Training) | 6           |
| 7            | GS 712  | Responsible Conduct of Research (Forum)           | 2           |
| <b>Total</b> |         |   | <b>21.5</b> |

| Spring 2017  |         |   |             |
|--------------|---------|---|-------------|
| #            | Code    | Name  | Credits     |
| 8            | ENG 490 | Renewable Energy Technologies               | 3           |
| 9            | ENV 590 | Economic Input/Output Environmental LCA     | 1.5         |
| 10           | ENV 631 | Energy Technology and Environmental Impacts | 3           |
| 11           | ENV 717 | Markets for Electric Power                  | 3           |
| 12           | ENV 765 | Geospatial Analysis for Management          | 4           |
| 13           | GS 711  | Responsible Conduct of Research             | 2           |
| 14           | GS 750  | Fundamentals of College Teaching            | 1           |
| <b>Total</b> |         |   | <b>17.5</b> |

| Fall 2017    |         |   |            |
|--------------|---------|---|------------|
| #            | Code    | Name                                    | Credits    |
| 15           | ENV 520 | Resource & Environmental Economics I    | 1.5        |
| 16           | ENV 635 | Energy Economics and Policy             | 1.5        |
| 17           | ENV 859 | Advanced Geospatial Analysis            | 3          |
| 18           | EOS 791 | Microgrid Design                        | 1.5        |
| 19           | GS 712  | Responsible Conduct of Research (Forum) | 2          |
| <b>Total</b> |         |   | <b>9.5</b> |

| Spring 2018  |        |   |            |
|--------------|--------|---|------------|
| #            | Code   | Name  | Credits    |
| 20           | GS 711 | Responsible Conduct of Research (Work)        | 4          |
| 21           | GS 712 | Responsible Conduct of Research (Dept. Forum) | 4          |
| 22           | GS 755 | College Teaching and Course Design            | 1          |
| <b>Total</b> |        |   | <b>9.0</b> |



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**Program:** Ph.D. Environment  
**Division:** Environmental Sciences & Policy  
**School:** Nicholas School of the Environment

| Summer 2018 |           |                       |          |
|-------------|-----------|-----------------------|----------|
| #           | Code      | Name                  | Credits* |
| 23          | GS 990.15 | Research Computing    | 0        |
| 24          | GS 990.20 | Science Communication | 0        |
| Total       |           |                       | 0        |

| Fall 2018 |            |   |         |
|-----------|------------|---|---------|
| #         | Code       | Name  | Credits |
| 25        | ENE 790.03 | Transformation of the U.S. Electricity Power Sector | 1.5     |
| Total     |            |   | 1.5     |

| Spring 2019 |        |                  |         |
|-------------|--------|------------------|---------|
| #           | Code   | Name             | Credits |
| 26          | GS 762 | Digital Pedagogy | 1       |
| Total       |        |                  | 1       |

| Summer 2019 |        |             |          |
|-------------|--------|-------------|----------|
| #           | Code   | Name        | Credits* |
| 27          | GS 990 | Negotiation | 0        |

| Fall 2019 |        |   |         |
|-----------|--------|---|---------|
| #         | Code   | Name                                      | Credits |
| 28        | GS 760 | College Teaching and Visual Communication | 1       |
| 29        | GS 772 | Bass Digital Colloquium                   | 1       |
| Total     |        |   | 2       |

| Spring 2020 |         |                           |         |
|-------------|---------|---------------------------|---------|
| #           | Code    | Name                      | Credits |
| 30          | ENV 771 | GIS Field Data Collection | 2       |
| 31          | GS 772  | Bass Digital Colloquium   | 1       |
| Total       |         |                           | 3       |



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**Table 2.** Course enrollment during 2016-2022 as part of the requisites for the Doctor of Philosophy degree.

| Term                | Year | Credits    | Courses    |
|---------------------|------|------------|------------|
| Fall                | 2016 | 21.5       | 7          |
| Spring              | 2017 | 17.5       | 7          |
| Fall                | 2017 | 9.5        | 5          |
| Spring              | 2018 | 9          | 3          |
| Summer <sup>a</sup> | 2018 | -          | 2          |
| Fall                | 2018 | 1.5        | 1          |
| Spring              | 2019 | 1          | 1          |
| Summer <sup>a</sup> | 2019 | -          | 1          |
| Fall                | 2019 | 2          | 2          |
| Spring              | 2020 | 3          | 2          |
| <b>Total</b>        |      | <b>65</b>  | <b>31</b>  |
| <b>Average</b>      |      | <b>8.1</b> | <b>3.1</b> |

a. Courses completed during Summer 2018 and 2019 corresponded to Duke's Summer Doctoral Academy. Considering the nature of this program, courses are graded using a pass/fail system and do not count as credits for the graduate point average (GPA) system.