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# H A R R I E T L . W I L K E S HONORS COLLEGE


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F L O R I D A A T L A N T I C U N I V E R S I T Y.

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## MEMORANDUM

**TO:** Russ Ivy  
Associate Provost

**FROM:** Jeffrey L. Buller   
Dean

**RE:** Converting B.A. Degrees to B.S. Degrees

**DATE:** January 5, 2016

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The faculty of the Wilkes Honors College is requesting that, for the following concentrations within the college, the degrees that it offers be designated as Bachelor of Science in Liberal Arts and Sciences (instead of the current Bachelor of Arts in Liberal Arts and Sciences):

- Biological Chemistry
- Biology
- Chemistry
- The Environmental Science track within Environmental Studies
- Marine Biology
- Neuroscience-Track One: Cellular Neuroscience
- Neuroscience-Track Two: Neuroscience, Cognition, and Behavior
- Physics
- Psychology

The rationale for this request includes the following:

- Unlike other concentrations within the college, the concentrations listed above include a preponderance of coursework in the natural sciences and mathematics. (See accompanying grid, which provides a concise summary of the total credits of science courses in these concentrations.)
- In instances where the same or comparable programs are offered as majors by other units of the university, those degrees are available as Bachelor of Science degrees.

**Harriet L. Wilkes Honors College**  
5353 Parkside Drive • Jupiter, FL 33458  
tel: 561.799.8579 • [jbuller@fau.edu](mailto:jbuller@fau.edu) • [www.fau.edu](http://www.fau.edu) • [www.honorscollege.edu](http://www.honorscollege.edu)

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- Current and prospective students of the college regularly request the availability of Bachelor of Science degrees in these concentrations.
- The new degree designation will reinforce the college's commitment to and support of the Jupiter Science Initiative.

I would request that the college be permitted to issue degrees in the above concentrations as Bachelor of Science instead of Bachelor of Arts degrees beginning Fall 2016 with the understanding that student who came in under the B.A. system would have the option of requesting a B.A.

### **Concise Summary of Minimum Credit Hours in Math and Science by Concentration**

|  | <b>Core Science<br/>(Min)</b> | <b>Core Math (Min)</b> | <b>Other<br/>math/natural<br/>science<br/>(minimum)---<br/>excluding thesis</b> | <b>Total<br/>Math/Science<br/>credits</b> |
|--|-------------------------------|------------------------|---|---|
| <b>Biological Chemistry</b>  | 8                             | 7                      | 50  | 65  |
| <b>Biology</b>   | 8                             | 7                      | 44  | 59  |
| <b>Chemistry</b>   | 8                             | 7                      | 42  | 57  |
| <b>Environmental Studies<br/>(science track)</b>                             | 8                             | 7                      | 20  | 35  |
| <b>Marine Biology</b>  | 8                             | 7                      | 48  | 63  |
| <b>Neuroscience-Track One:<br/>Cellular Neuroscience</b>                     | 8                             | 7                      | 46  | 61  |
| <b>Neuroscience-Track Two:<br/>Neuroscience, Cognition,<br/>and Behavior</b> | 8                             | 6                      | 23*   | 37  |
| <b>Physics</b>   | 8                             | 7                      | 23  | 38  |
| <b>Psychology</b>  | 7                             | 6                      | 12*   | 25  |


\*Does not count PSY/CLP/EXP/PPE/DEP/SOP as Natural Science.

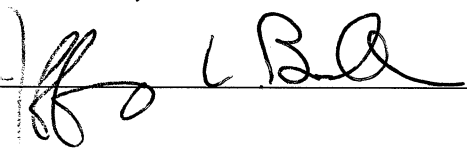
(Assumes students in these programs enter FAU with Precalc and count Calc I for Core.)

Requirement outlines for these degrees follow.

**Signature Page**  
**Wilkes Honors College B.A. to B.S. Request**

Department Chair: 

College Curriculum Chair: 

College Dean: 

UUPC Chair: \_\_\_\_\_

Undergraduate Studies Dean: \_\_\_\_\_

UFS President: \_\_\_\_\_

Provost: \_\_\_\_\_

### **A note on the Honors College curriculum.**

Since Honors College concentrations may at times look a bit different from traditional college majors, a brief note of explanation may be in order.

Concentrations in the Wilkes Honors College are designed, whenever possible, to provide students with the greatest amount of flexibility in choosing courses to fulfill requirements. This amount of flexibility allows a program to be adapted to the individual needs and career trajectory of each high ability student and to graduate in a timely manner.

Many concentrations thus allow Special Topics courses to fulfill certain requirements or electives, with the approval of either the advisor or the committee in charge of that concentration. Examples of Special Topics courses that have been approved in the past for specific concentrations in the past may be found on the degree pages of the Honors College website. (Click on the individual concentration listed at [www.fau.edu/honors/academics/majors/concentrations.php](http://www.fau.edu/honors/academics/majors/concentrations.php).)

Although the pages below list the catalog name for the course (for example, Special Topics in Science and Mathematics), the college's website frequently lists specific topics that have been approved so as to provide better guidance for students.

**Honors College Concentrations**  
**Proposed for Change from B.A. to B.S.**

**CONCENTRATION IN BIOLOGICAL CHEMISTRY**

| <b>Course #</b>      | <b>Course Name</b>   | <b>Credits</b> |
|----------------------|--|----------------|
| BSC 1010, 1010L      | Honors Biological Principles with Lab  | 4              |
| PCB 3063             | Honors Genetics  | 4              |
| PCB 4102             | Honors Cell Biology  | 4              |
| CHM 2045, 2045L      | Honors General Chemistry I with Lab  | 4              |
| CHM 2046, 2046L      | Honors General Chemistry II with Lab   | 4              |
| CHM 2210, 2204L      | Honors Organic Chemistry I with Lab  | 4              |
| CHM 2211, 2205L      | Honors Organic Chemistry II with Lab   | 4              |
| BCH 3033, 3033L      | Honors Biochemistry with Lab   | 4              |
| STA 2023             | Honors Introductory Statistics   | 3              |
| MAC 2311             | Honors Calculus I  | 4              |
| MAC 2312             | Honors Calculus II   | 4              |
| PHY 2048, 2048L      | Honors General Physics I with Lab  | 5              |
| PHY 2049, 2049L      | Honors General Physics II with Lab   | 5              |
|                      | 4 Electives; 2 in Biology and 2 in Chemistry, with at least one chemistry lab. | 12             |
| BSC 4915/ /          |  |                |
| CHM 4912 or 4914     | Honors Research in Biology/Chemistry   | 3              |
| BSC 4970 / —         |  |                |
| CHM 4970             | Honors Thesis in Biology/Chemistry   | 3              |
| <b>Total Credits</b> |  | <b>71</b>      |

**BIOLOGY ELECTIVES**

| <b>Course #</b> | <b>Course Name</b>             | <b>Credits</b> |
|-----------------|--------------------------------|----------------|
| MCB 3020, 3020L | Honors Microbiology with Lab   | 4              |
| PCB 4024        | Honors Molecular Cell Biology  | 3              |
| BSC 4402L       | Honors Fluorescence Microscopy | 3              |
| BSC 4403L       | Honors Biotechnology Lab       | 3              |
| PCB 4253        | Honors Developmental Biology   | 3              |
| PCB 4324        | Honors Cancer Biology          | 3              |

**CHEMISTRY ELECTIVES**

| <b>Course #</b> | <b>Course Name</b>                                 | <b>Credits</b> |
|-----------------|--|----------------|
| CHM 3085        | Honors Environmental Chemistry                     | 3              |
| CHM 3121, 3121L | Honors Quantitative Analysis with Lab              | 4              |
| CHM 3291        | Honors Chemistry of Medicinal and Natural Products | 3              |
| CHM 3400        | Honors Introduction to Physical Chemistry          | 3              |
| CHM 4135, 4135L | Honors Instrumental Methods of Analysis with Lab   | 4              |

|                     |                                     |   |
|---------------------|-------------------------------------|---|
| CHM 4231            | Honors Spectroscopy                 | 3 |
| CHM 4473            | Honors Quantum Chemistry            | 3 |
| CHM 3609, CHM 3609L | Honors Inorganic Chemistry with Lab | 4 |

*Special Topics in Biology (BSC 4930) or Chemistry (CHM 4933) may be used to fulfill the Biology and Chemistry electives upon approval of the Biological Chemistry advisory board.*

## CONCENTRATION IN MARINE BIOLOGY

| Course #             | Course Name                                     | Credits   |
|----------------------|---|-----------|
| BSC 1010, 1010L      | Honors Biological Principles with Lab           | 4         |
| BSC 1011, 1011L      | Honors Biodiversity with Lab                    | 4         |
| CHM 2045, 2045L      | Honors General Chemistry I with Lab             | 4         |
| CHM 2046, 2046L      | Honors General Chemistry II with Lab            | 4         |
| MAC 2311             | Honors Calculus I                               | 4         |
| STA 2023             | Honors Introductory Statistics                  | 3         |
| PHY 2048, 2048L      | General Physics I with Lab                      | 5         |
| PCB 3063             | Honors Genetics                                 | 4         |
| OCB 3012, 3012L      | Honors Marine Biology and Oceanography with Lab | 4         |
| OBE 4008             | Marine Science (HBOI)                           | 4         |
| OCB 4032, 4032L      | Marine Biodiversity and Lab (HBOI)              | 4         |
| OCB 4633, 4633L      | Marine Ecology and Lab (HBOI)                   | 4         |
|                      | Marine Biology Electives                        | 15        |
| BSC 4915             | Honors Research in Biology                      | 3         |
| BSC 4970             | Honors Thesis in Biology                        | 3         |
| <b>Total Credits</b> |   | <b>69</b> |

## MARINE BIOLOGY ELECTIVES

| Course #        | Course Name                                | Credits |
|-----------------|--|---------|
| BCH 3033, 3033L | Honors Biochemistry with Lab               | 4       |
| OCE 2001        | Honors Oceanography                        | 3       |
| BSC 1933        | Ecology of Atlantic Shores                 | 3       |
| BSC 4903        | Ocean Discovery (HBOI)                     | 2       |
| EVR 4420        | Honors Marine Conservation                 | 3       |
| BSC 6936        | Sea Turtle Biology (HBOI)                  | 3       |
| BSC 6936        | Natural History Indian River Lagoon (HBOI) | 3       |
| IDS 3932        | Honors History of Life                     | 3       |
| EVS 4414        | Honors Conservation Biology                | 3       |
| PCB 4673        | Honors Evolution                           | 3       |
| ZOO 2303, 2303L | Honors Vertebrate Zoology with Lab         | 4       |
| ZOO 4556        | Honors Coral Reef Ecology                  | 3       |

## Electives:

*Several of the above courses are offered at FAU's Harbor Branch Oceanographic Institution (HBOI). Special Topics courses and other FAU marine science courses may be used with the prior approval of the concentration advisor.*

## CONCENTRATION IN NEUROSCIENCE- TRACK ONE: CELLULAR NEUROSCIENCE

### NEURO CORE

| <b>Course #</b> | <b>Course Name</b>                   | <b>Credits</b> |
|-----------------|--------------------------------------|----------------|
| PSY1012         | Honors General Psychology            | 3              |
| BSC1010         | Honors Biological Principles         | 3              |
| BSC1010L        | Honors Biological Principles Lab     | 1              |
| BSC4930         | Honors Human Morphology 1            | 3              |
| PCB 3703L       | Honors Morphology and Function 1 Lab | 1              |
| CHM2045         | Honors General Chemistry 1           | 3              |
| CHM2045L        | Honors General Chemistry 1 Lab       | 1              |
| CHM2046         | Honors General Chemistry 2           | 3              |
| CHM2046L        | Honors General Chemistry 2 Lab       | 1              |
| STA2023         | Honors Statistics                    | 3              |
| BSC4970         | Honors Thesis                        | 6              |

### ADDITIONAL REQUIRED COURSES FOR TRACK ONE

| <b>Course #</b>                 | <b>Course Name</b>             | <b>Credits</b> |
|---------------------------------|--------------------------------|----------------|
| MAC2311                         | Honors Calculus 1              | 4              |
| CHM2204                         | Honors Organic Chemistry 1     | 3              |
| CHM2204L                        | Honors Organic Chemistry 1 Lab | 1              |
| CHM2205                         | Honors Organic Chemistry 2     | 3              |
| CHM2205L                        | Honors Organic Chemistry 2 Lab | 1              |
| PHY2048                         | Honors General Physics 1       | 4              |
| PHY2048L                        | Honors General Physics 1 Lab   | 1              |
| PHY2049                         | Honors General Physics 2       | 4              |
| PHY2049L                        | Honors General Physics 2 Lab   | 1              |
| BCH3033                         | Honors Biochemistry            | 3              |
| PCB3063                         | Honors Genetics                | 4              |
| PCB4102                         | Honors Cell Biology            | 4              |
| Cellular Neuroscience Electives |                                | 9              |
| <b>Total Credits</b>            |                                | <b>70</b>      |

### CELLULAR NEUROSCIENCE ELECTIVES (Select 3)

| <b>Course #</b> | <b>Course Name</b>                                | <b>Credits</b> |
|-----------------|---|----------------|
| PCB4843C        | Practical Cell Neuroscience                       | 3              |
| PSB3340         | Honors Behavioral Neuroscience                    | 3              |
| PSB 3441        | Honors Drugs and Behavior<br>(Psychopharmacology) | 3              |
| PCB 4842        | Cellular Neuroscience                             | 3              |

*Other electives and/or Special Topics courses may be approved by the student's neuroscience faculty advisor.*



## CONCENTRATION IN NEUROSCIENCE- TRACK TWO: NEUROSCIENCE, COGNITION, AND BEHAVIOR

### NEURO CORE

| <b>Course #</b> | <b>Course Name</b>                            | <b>Credits</b> |
|-----------------|---|----------------|
| PSY1012         | Honors General Psychology                     | 3              |
| BSC1010         | Honors Biological Principles                  | 3              |
| BSC1010L        | Honors Biological Principles Lab              | 1              |
| BSCXXX*         | Honors Human Morphology I                     | 3              |
| PCB 3703L       | Honors Human Morphology and<br>Function I Lab | 1              |
| CHM2045         | Honors General Chemistry 1                    | 3              |
| CHM2045L        | Honors General Chemistry 1 Lab                | 1              |
| CHM2046         | Honors General Chemistry 2                    | 3              |
| CHM2046L        | Honors General Chemistry 2 Lab                | 1              |
| STA2023         | Honors Statistics                             | 3              |
| PSY4971         | Honors Thesis                                 | 6              |

*\* A number is currently being assigned to this course. Previously students took it under a Special Topics designation.*

### ADDITIONAL REQUIRED COURSES FOR TRACK TWO

| <b>Course #</b>        | <b>Course Name</b>                                | <b>Credits</b> |
|------------------------|---|----------------|
| PSB3340                | Honors Behavioral Neuroscience                    | 3              |
| CLP4144                | Honors Abnormal Psychology                        | 3              |
| EXP3604                | Honors Cognition                                  | 3              |
| PSY3213                | Honors Research Methods in Psychology             | 3              |
| PSY3213L               | Honors Research Methods in Psychology Lab         | 1              |
| PSY4933                | Honors Advanced Writing in Psychology             | 1              |
| PSB 3441               | Honors Drugs and Behavior<br>(Psychopharmacology) | 3              |
| Psychology Electives   |   | 6              |
| Neuroscience Electives |   | 9-11           |
| <b>Total Credits</b>   |   | <b>60-62</b>   |

### NEUROSCIENCE ELECTIVES (Select 3)

| <b>Course #</b> | <b>Course Name</b>          | <b>Credits</b> |
|-----------------|-----------------------------|----------------|
| PCB3063         | Honors Genetics             | 4              |
| PCB4102         | Honors Cell Biology         | 4              |
| PCB4843C        | Practical Cell Neuroscience | 3              |
| PCB 4842        | Cellular Neuroscience       | 3              |

*Other electives and/or Special Topics courses may be approved by the student's neuroscience faculty advisor.*

**PSYCHOLOGY ELECTIVES (Select 2)**

| <b>Course #</b> | <b>Course Name</b>                       | <b>Credits</b> |
|-----------------|--|----------------|
| CLP4314         | Honors Health Psychology                 | 3              |
| SOP3004         | Honors Principles of Social Psychology   | 3              |
| DEP3053         | Honors Psychology of Human Development   | 3              |
| PPE3033         | Honors Personality                       | 3              |
| PSY4604         | Honors History and Systems of Psychology | 3              |

*Other electives and/or Special Topics courses may be approved by the student's neuroscience faculty advisor.*

## CONCENTRATION IN BIOLOGY

| Course #             | Course Name                              | Credits   |
|----------------------|--|-----------|
| BSC 1010, 1010L      | Honors Biological Principles with Lab    | 4         |
| BSC 1011, 1011L      | Honors Biodiversity with Lab             | 4         |
| CHM 2045, 2045L      | Honors General Chemistry I with Lab      | 4         |
| CHM 2046, 2046L      | Honors General Chemistry II with Lab     | 4         |
| MAC 2311             | Honors Calculus I with Analytic Geometry | 4         |
| STA 2023             | Honors Introductory Statistics           | 3         |
| PHY 2048, 2048L      | Honors General Physics I with Lab        | 5         |
| CHM 2210, 2204L      | Honors Organic Chemistry I with Lab      | 4         |
| CHM 2211, 2205L      | Honors Organic Chemistry II with Lab     | 4         |
| BCH 3033             | Honors Biochemistry                      | 3         |
| PCB 3063             | Honors Genetics                          | 4         |
|                      | Biology Electives                        | 18        |
| BSC 4915             | Honors Research in Biology               | 3         |
| BSC 4970             | Honors Thesis in Biology                 | 3         |
| <b>Total Credits</b> |  | <b>69</b> |

## BIOLOGY ELECTIVES

| Course #        | Course Name  | Credits |
|-----------------|--|---------|
| BOT 3501, 3501L | Honors Introduction to Plant Biology with Lab              | 4       |
| BSC 4905        | Honors Directed Independent Study in Biology               | 1-3     |
| BSC 4402L       | Honors Fluorescence Microscopy Lab                         | 1       |
| BSC 4403L       | Honors Biotechnology Lab                                   | 2       |
| BSC 2084, 2084L | Honors Essentials of Human Anatomy and Physiology with Lab | 4       |
| PCB 3703L       | Human Morphology and Function I Lab                        | 1       |
| PCB 3704L       | Human Morphology and Function II Lab                       | 1       |
| PCB 4673        | Honors Evolution   | 3       |
| PCB 3352        | Honors Issues in Human Ecology                             | 3       |
| PCB 4414        | Honors Behavioral Ecology                                  | 4       |
| PCB 3351, 3351L | Honors Tropical Rainforests with Lab                       | 6       |
| PCB 3411        | Honors Animal Behavior                                     | 3       |
| PCB 4253        | Honors Developmental Biology                               | 3       |
| PCB 4324        | Honors Cancer Biology                                      | 3       |
| PCB 4043        | Honors Principles of Ecology                               | 3       |
| OCB 3012, 3012L | Honors Marine Biology and Oceanography with Lab            | 4       |
| ZOO 2303, 2303L | Honors Vertebrate Zoology with Lab                         | 4       |
| ZOO 4556        | Honors Coral Reef Ecology                                  | 3       |
| MCB 3023, 3023L | Honors Microbiology with Lab                               | 4       |

|          |                               |   |
|----------|-------------------------------|---|
| PCB 4102 | Honors Cell Biology           | 4 |
| PCB 4024 | Honors Molecular Cell Biology | 3 |
| BSC 1933 | Honors Freshman Seminar       | 3 |
| EVS 4414 | Honors Conservation Biology   | 3 |

**Electives:**

*Special Topics courses and other FAU courses may be approved by the concentration advisor.*

## CONCENTRATION IN CHEMISTRY

| Course #             | Course Name  | Credits |
|----------------------|--|---------|
| CHM 2045, 2045L      | Honors General Chemistry I with Lab                                      | 4       |
| CHM 2046, 2046L      | Honors General Chemistry II with Lab                                     | 4       |
| CHM 2210, 2204L      | Honors Organic Chemistry I with Lab                                      | 4       |
| CHM 2211, 2205L      | Honors Organic Chemistry II with Lab                                     | 4       |
| CHM 3400             | Honors Introduction to Physical Chemistry                                | 3       |
| CHM 3609, 3609L      | Honors Inorganic Chemistry with Lab                                      | 4       |
| CHM 4135, 4135L      | Honors Instrumental Methods of Analysis with Lab                         | 4       |
| MAC 2311             | Honors Calculus I  | 4       |
| MAC 2312             | Honors Calculus II   | 4       |
| PHY 2048, 2048L      | Honors General Physics I with Lab  | 5       |
| PHY 2049, 2049L      | Honors General Physics II with Lab                                       | 5       |
|                      | Chemistry Elective (one elective must include a lab)                     | 10-11   |
| CHM 4912 or CHM 4914 | Honors Research in Chemistry or Honors Research and Writing in Chemistry | 4       |
| CHM 4970             | Honors Thesis in Chemistry   | 3       |
|                      | Total Credits  | 62-63   |

## CHEMISTRY ELECTIVES

| Course #        | Course Name  | Credits |
|-----------------|--|---------|
| BCH 3033, 3033L | Honors Biochemistry with Lab                       | 4       |
| CHM 3084        | Honors Environmental Chemistry                     | 3       |
| CHM 3121, 3121L | Honors Quantitative Analysis with Lab              | 4       |
| CHM 3292        | Honors Chemistry of Medicinal and Natural Products | 3       |
| CHM 4231        | Honors Spectroscopy                                | 3       |
| CHM 4473        | Honors Quantum Chemistry                           | 3       |
| CHM 4905        | Honors Directed Independent Study in Chemistry     | 1-4     |
| CHM 4933        | Honors Special Topics in Chemistry                 | 1-4     |

## Electives:

*Special Topics courses and other FAU courses may be approved by the concentration advisor.*

## CONCENTRATION IN PHYSICS

### MINIMAL REQUIREMENTS

| <b>Course #</b>      | <b>Course Name</b>                        | <b>Credits</b> |
|----------------------|---|----------------|
| PHY 2048, 2048L      | Honors General Physics I with Lab         | 5              |
| PHY 2049, 2049L      | Honors General Physics II with Lab        | 5              |
|                      | Physics Electives                         | 15             |
|                      | Mathematics Electives                     | 3              |
| PHY 4905<br>Research | Honors Directed Independent Thesis<br>3-6 |                |
| PHY 4970             | Honors Thesis in Physics                  | 3              |
|                      | Total minimal concentration               | 34-37          |

### ADDITIONAL REQUIREMENTS

|                 |   |       |
|-----------------|---|-------|
| BSC 1010, 1010L | Honors Biological Principles with Lab           | 4     |
| BSC 1011, 1011L | Honors Biodiversity with Lab                    | 4     |
| CHM 2045, 2045L | Honors General Chemistry I with Lab             | 4     |
| CHM 2046, 2046L | Honors General Chemistry II with Lab            | 4     |
| CHM 2210, 2210L | Honors Organic Chemistry I with Lab             | 4     |
| CHM 2211, 2211L | Honors Organic Chemistry II with Lab            | 4     |
| BCH 3033        | Honors Biochemistry                             | 4     |
|                 | Total Credits (including minimal concentration) | 61-64 |

### PHYSICS ELECTIVES

| <b>Course #</b> | <b>Course Name</b>                                    | <b>Credits</b> |
|-----------------|---|----------------|
| CHM 3400*       | Honors Introduction to Physical Chemistry             | 3              |
| CHM 4473**      | Honors Quantum Chemistry                              | 3              |
| PHY 3101        | Honors Introduction to Modern Physics                 | 3              |
| PHY 3221        | Honors Intermediate Mechanics                         | 4              |
| PHY 3513*       | Honors Thermal Physics                                | 3              |
| PHY 4320        | Honors Electricity and Magnetism                      | 4              |
| PHY 4523        | Honors Statistical Physics                            | 3              |
| PHY 4602**      | Honors Introductory Quantum Physics                   | 3              |
| PHY 4905        | Honors Directed<br>Independent Study in Physics       | 3              |
| PHY 4936        | Honors Special Topics in Physics<br>(may be repeated) | 1-4            |
| PHZ 3601        | Honors Relativity                                     | 3              |

\* Either CHM 3400 or PHY 3513 can be used to fulfill the physics elective, but not both.

**\*\* Either CHM 4473 or PHY 4602 can be used to fulfill the physics elective, but not both.**

### **MATHEMATICS ELECTIVES**

|          |  |     |
|----------|--|-----|
| ISC 4930 | Honors Special Topics in Science and Mathematics       | 1-4 |
| MAC 2313 | Honors Calculus with Analytic Geometry III             | 4   |
| MAP 2302 | Honors Differential Equations                          | 3   |
| MAS 2103 | Honors Matrix Theory                                   | 3   |
| MAT 4930 | Honors Special Topics in Mathematics (may be repeated) | 1-4 |
| COP 2000 | Honors Foundations of Programming                      | 3   |
| COP 2220 | Honors Introduction to Programming in C                | 3   |
| COP 2930 | Honors Topics in Computer Programming                  | 3   |
| COP 3012 | Honors Advanced Programming                            | 3   |
| COP 3229 | Honors Self-paced C++ Programming                      | 1   |
| COP 3254 | Honors Self-paced Java Programming                     | 1   |
| COT 4930 | Honors Topics in Computer Science                      | 3   |

### **Minimal Requirements:**

These minimal requirements are not generally considered sufficient preparation for admission into graduate study in physics. Rather, they are intended for students who are interested in pursuing interdisciplinary tracks in physics. Examples include emphasis on applied mathematics, philosophy of science, science and culture, and scientific writing. Specific paths should be determined in consultation with advisors from physics and appropriate disciplines. The senior thesis may reflect such interdisciplinary study, but must include significant concepts or techniques from the field of physics. Students who pursue interdisciplinary tracks in physics should arrange for a thesis advisory committee that represents these interests. In addition to the requirements for a minor in physics, students will earn a major concentration in physics by completing 6-9 credit hours of research toward and writing of a senior thesis in physics. Students are reminded they need 45 upper-level (3000- or 4000-level) credits to graduate.

### **Graduate School Track:**

The minimal concentration listed above is not sufficient for admission to graduate study in physics. Students who wish to go to graduate school should take additional credits in physics and mathematics, including specific courses to be determined in consultation with an advisor. All students are encouraged to take advanced physics courses from the main campus in Boca Raton.

### **Pre-Professional Track:**

A specific example of an interdisciplinary physics concentration, the pre-professional physics track is intended for students who are interested in pursuing a career in medicine or possibly science education. Because of the nature of requirements for admission to medical school, there is very little room for non-science elective courses in this track. Students who wish to pursue a career in science education will most likely need additional education courses taken elsewhere. Students should consult with their thesis advisors for guidance in completing a track that meets their needs.



## CONCENTRATION IN THE ENVIRONMENTAL SCIENCE TRACK WITHIN ENVIRONMENTAL STUDIES

### REQUIRED COURSES

| Course #                               | Course Name  | Credits   |
|--|--|-----------|
| EVR 2017                               | Honors Environment and Society                                     | 3         |
| EVR 3352, or<br>PCB 4043               | Honors Issues in Human Ecology, or<br>Honors Principles of Ecology | 3         |
| PHI 3682                               | Honors Environmental Philosophy                                    | 3         |
| BSC 1011, 1011L                        | Honors Biodiversity, with Lab                                      | 4         |
| ECO 2023                               | Honors Microeconomic Principles                                    | 3         |
| ECP 4302                               | Honors Environmental Economics                                     | 2         |
| CHM 2045, 2045L                        | Honors General Chemistry I, with Lab                               | 4         |
| STA 2023                               | Honors Introductory Statistics                                     | 3         |
| GEO 3144C                              | Honors Geographic Information Systems                              | 3         |
| EVR 4970                               | Honors Thesis in Environmental Studies                             | 6         |
| <b>Total Credits (gateway courses)</b> |  | <b>35</b> |

### ADDITIONAL ENVIRONMENTAL SCIENCE TRACK COURSES

| Course #                                     | Course Name                                    | Credits      |
|--|--|--------------|
| HM 2046, 2046L                               | Honors General Chemistry II, with Lab          | 4            |
| CHM 2210, 2210L                              | Honors Organic Chemistry I, with Lab*          | 4            |
|  | Science Electives from 2 or more disciplines** | 12-16        |
|  | Humanities / Social Science Elective           | 3            |
| <b>Total Credits (science track)</b>         |  | <b>23-27</b> |
| <b>Total Credits (incl. gateway courses)</b> |  | <b>55-59</b> |

\* Students are strongly encouraged to take CHM 2211 / 2211L, Organic Chemistry II with Lab.

\*\* BSC 1005 & 1005L may not be counted as a science elective.

### SCIENCE ELECTIVES

| Course #        | Course Name  | Credits |
|-----------------|--|---------|
| BCH 3033, 3033L | Honors Biochemistry with Lab                         | 4       |
| BOT 3501, 3501L | Honors Intro. to Plant Biology with Lab              | 4       |
| BSC 1010, 1010L | Honors Biological Principles                         | 4       |
| BSC 1933        | Honors Freshman Seminar in Biology                   | 3       |
| CHM 1025C       | Honors Contemporary Chemical Issues                  | 3       |
| CHM 2046, 2046L | Honors General Chemistry II with Lab                 | 4       |
| CHM 2210, 2210L | Honors Organic Chemistry I with Lab                  | 4       |
| CHM 2211, 2211L | Honors Organic Chemistry II with Lab                 | 4       |
| CHM 2214, 2214L | Honors Introduction to Organic Spectroscopy with Lab | 2       |

|                 |   |   |
|-----------------|---|---|
| CHM 3080        | Honors Environmental Chemistry                      | 3 |
| CHM 3609        | Honors Inorganic Chemistry with Lab                 | 4 |
| CHM 3120        | Honors Quantitative Analysis                        | 4 |
| CHM 4130        | Honors Instrumental Methods<br>of Analysis with Lab | 3 |
| EVR 2001        | Honors Intro. to Environmental Science              | 3 |
| EVR 4420        | Honors Marine Conservation                          | 3 |
| EVS 4414        | Honors Conservation Biology                         | 3 |
| GEO 4930        | Honors Special Topics in Geography*                 | 3 |
| OCB 3012, 3012L | Honors Marine Biology<br>and Oceanography with Lab  | 4 |
| OCB 2000        | Honors Survey of Marine Biology                     | 3 |
| OCE 2001        | Honors Introduction to Oceanography                 | 3 |
| PCB 3351, 3351L | Honors Tropical Rainforest with Lab                 | 6 |
| PCB 3411        | Honors Animal Behavior                              | 3 |
| PCB 4043        | Honors Principles of Ecology                        | 3 |
| PCB 4414        | Honors Behavioral Ecology                           | 4 |
| PCB 4673        | Honors Evolution                                    | 3 |
| PHY 2048, 2048L | Honors General Physics I with Lab                   | 5 |
| PHY 2049, 2049L | Honors General Physics II with Lab                  | 5 |
| PHY 2020        | Honors Conceptual Physics                           | 3 |
| PSC 2514C       | Honors Energy and the Environment                   | 4 |
| ZOO 2303, 2303L | Honors Vertebrate Zoology with Lab                  | 4 |

### HUMANITIES AND SOCIAL SCIENCE ELECTIVES

| <b>Course #</b> | <b>Course Name</b>   | <b>Credits</b> |
|-----------------|--|----------------|
| AMH 3630        | Honors American Environmental History                                  | 3              |
| AML 3452        | Honors Environmental Imagination<br>in American Literature and Culture | 3              |
| ECO 2013        | Honors Macroeconomic Principles  | 3              |
| ECS 3013        | Honors International Economic Development                              | 3              |
| ENC 3362        | Honors Environmental Writing and Rhetoric                              | 3              |
| EUH 3618        | Honors Sense of Place Across Time                                      | 3              |
| EVR 1933*       | Honors Freshman Seminar in<br>Environmental Studies                    | 3              |
| EVR 4930*       | Honors Special Topics in<br>Environmental Studies                      | 3              |
| EVS 3403        | Honors Global Environmental Issues                                     | 3              |
| GEO 2370        | Honors Conservation and Use<br>of Natural Resources                    | 3              |
| GEO 3402        | Honors Human Geography   | 3              |
| GEO 4930 +      | Honors Special Topics in Geography                                     | 3              |
| IDS 3932        | Honors Ethics in Business,<br>Government and Society                   | 3              |
| PAD 3003 #      | Honors Public Management<br>and Administration                         | 3              |

|            |  |   |
|------------|--|---|
| PAD 3104 # | Organizational Behavior and Administrative Communication | 3 |
| PAD 4332 # | Managing for Excellence in Public and Non-Profit Sectors | 3 |
| PAD 4320 # | Program Evaluation in Public Management                  | 3 |
| PAD 4604 # | Administrative Process and Ethics                        | 3 |
| PAD 4806 # | State and Local Government Administration                | 3 |
| PHI 3644   | Honors Obligations                                       | 3 |
| POS 3691   | Honors Law and American Society                          | 3 |
| POS 4603   | Honors Constitutional Law                                | 3 |
| POS 4931 # | Law and Government Agencies                              | 3 |
| PUP 4008 # | Policy Analysis  | 3 |
| PUP 4212   | Honors Environmental Conflict                            | 3 |
| SOP 4716   | Honors Environmental Psychology                          | 3 |
| SYD 4792   | Honors Race, Gender, Class, Sexuality and Science        | 3 |
| SYP 4803   | Honors Gender and Technology                             | 3 |

\* *Can count multiple times given different topics.*

+ *Human geography topics may count for social science elective credit.*

# *Non-Honors College course, frequently taught on the Jupiter Campus.*

### **Science Electives:**

Courses on this list may be used to fill the science electives section of both the Environmental Science and Environmental Studies tracks (except as indicated above). Please be aware that some courses on this list have prerequisites. Students are reminded that they need 45 upper-level (3000 or 4000-level) credits to graduate.

### **Humanities and Social Science Electives:**

Courses on this list may be used to fill the social science and humanities electives section of both the Environmental Science and Environmental Studies tracks. Please be aware that some courses on this list have prerequisites.

## CONCENTRATION IN PSYCHOLOGY

### SOCIAL SCIENCE FOUNDATION COURSES

| Course # | Course Name               | Credits |
|----------|---------------------------|---------|
| PSY 1012 | Honors General Psychology | 3       |

### SOCIAL SCIENCE ELECTIVES

*One or more of the following courses or equivalent courses as approved by the concentration advisory board:* (3)

| Course # | Course Name                       | Credits |
|----------|-----------------------------------|---------|
| AMH 4932 | Honors Violence in America        |         |
| ANT 2410 | Honors Culture and Society        |         |
| ECO 2023 | Honors Microeconomic Principles   |         |
| EUH 3618 | Honors Sense of Place Across Time |         |
| GEO 3402 | Honors Human Geography            |         |
| POS 2692 | Honors Punishment                 |         |
| POS 3691 | Honors Law and American Society   |         |
| SYG 1000 | Honors Introduction to Sociology  |         |
| WST 3015 | Honors Intro to Women's Studies   |         |

### BIOLOGY AND NEUROSCIENCE FOUNDATION COURSES

| Course #        | Course Name                          | Credits |
|-----------------|--------------------------------------|---------|
| BSC 1010, 1010L | Honors Biological Principles and Lab | 4       |

### BIOLOGY AND NEUROSCIENCE ELECTIVES

*One or more of the following, or equivalent course as agreed to by the concentration advisory board:* (3-4)

| Course # | Course Name                                 | Credits |
|----------|---|---------|
| PSB 3340 | Honors Behavioral Neuroscience              |         |
| PSB 3344 | Honors Drugs and Behavior                   |         |
| BSC 2084 | Honors Essentials of Anatomy and Physiology |         |
| BSC 4930 | Honors Human Morphology and Function 1      |         |
| PCB 3063 | Honors Genetics                             |         |

### MATHEMATICS FOUNDATION COURSES

| Course # | Course Name  | Credits |
|----------|--|---------|
| PSY 3234 | Honors Experimental Design and Statistical Inference, or | 3       |
| STA 2023 | Honors Introductory Statistics                           | 3       |

### MATHEMATICS ELECTIVES

One or more of the following courses or equivalent courses as approved by the

concentration advisory board:

(3-4)

| <b>Course #</b> | <b>Course Name</b>             |
|-----------------|--------------------------------|
| STA 3164        | Honors Intermediate Statistics |
| PSY 4302, 4302L | Honors Psychometrics and Lab   |
| MAC 2311        | Honors Calculus                |

**PSYCHOLOGY FOUNDATION COURSES**

| <b>Course #</b>      | <b>Course Name</b>                                    | <b>Credits</b> |
|----------------------|---|----------------|
| PSY 4604             | Honors History and Systems of Psychology              | 3              |
| PSY 3213, 3213L      | Honors Research Methods<br>in Psychology and Lab      | 4              |
|                      | Five Psychology Electives                             | 15             |
| PSY 4933             | Honors Advanced Writing in Psychology                 | 1              |
| PSY 4971             | Honors Thesis in Psychology and<br>Behavioral Science | 5-8            |
| <b>Total Credits</b> |   | <b>47-52</b>   |

**PSYCHOLOGY ELECTIVES: GROUP A****NATURAL SCIENCE APPROACH TO PSYCHOLOGY**

| <b>Course #</b> | <b>Course Name</b>                  | <b>Credits</b> |
|-----------------|-------------------------------------|----------------|
| PSB 3344        | Honors Drugs and Behavior           | 3              |
| EXP 3604        | Honors Cognition                    | 3              |
| EXP 4631        | Honors Thinking and Decision-Making | 3              |
| EXP 3202        | Honors Sensation and Perception     | 3              |
| PCB 3411        | Honors Animal Behavior              | 3              |
| IDS 4933        | Honors How and Why We Age           | 3              |
| PSB 3340        | Honors Behavioral Neuroscience      | 3              |
| PSY 4930        | Honors Evolutionary Psychology      | 3              |
| DEP 4463C       | Honors Lab in Cognitive Aging       | 3              |
| PSY 4930        | Honors Psychology of Aging          | 3              |

*Other courses in psychology primarily based in biological and natural sciences may be approved by the concentration advisory board.*

**PSYCHOLOGY ELECTIVES: GROUP B****SOCIAL SCIENCE APPROACH TO PSYCHOLOGY**

| <b>Course #</b> | <b>Course Name</b>   | <b>Credits</b> |
|-----------------|--|----------------|
| PPE 3003        | Honors Personality   | 3              |
| SOP 3004        | Honors Principles of Social Psychology                     | 3              |
| DEP 3053        | Honors Psychology of Human Development                     | 3              |
| DEP 4095        | Honors Personality and Social Development                  | 3              |
| PSY 4302, 4302L | Honors Psychometrics<br>and Psychological Testing with Lab | 4              |
| CLP 4144        | Honors Psychopathology                                     |                |

|          |                              |   |
|----------|------------------------------|---|
|          | (Abnormal Psychology)        | 3 |
| CLP 4310 | Honors Health Psychology     | 3 |
| SOP 3742 | Honors Psychology of Women   | 3 |
| POS 4206 | Honors Political Psychology  | 3 |
| PSY 4930 | Honors Psychotherapy Systems | 3 |

*Other courses in psychology primarily based in the social sciences.*

## **Foundation Courses:**

Psychology concentrators are required to take six foundation courses, two in social sciences, two in biological sciences, and two in mathematics. Students must earn at least a B- in PSY 1012 General Psychology. Courses that are used to fulfill the foundation requirements for the Psychology concentration cannot simultaneously be used to fulfill the Psychology Electives requirement.

## **Psychology Electives:**

Concentrators must take five intermediate and advanced electives, at least two of which must be drawn from Group A and two from Group B. Interdisciplinary courses (prefixes IDS, ISS, etc.) may be substituted for coursework in psychology at the discretion of the advisor. Students interested in pursuing graduate study in psychology should work closely with their academic advisors to insure a sufficient preparation in each of the major academic sub-disciplines of psychology (i.e., Biological, Clinical, Cognitive, Developmental, Personality, and Social Psychologies). Students are reminded they need 45 upper-level (3000 or 4000-level) credits to graduate. At least 50 percent of upper level Psychology courses must be taken at the Honors College. Courses used to fulfill the foundation requirements in Psychology may not also be used as Psychology electives.