## Sample AS&T Ph.D. Program in Electronic and Optical Physics

| Year 1   | Fall | Spring |
|--|------|--------|
| EE 230A, Integrated Circuit Devices                            | 4    | -      |
| PHYS 221A, Quantum Mechanics <sup>1</sup>                      | 5    | -      |
| EE 232 Lightwave Devices                                       | -    | 4      |
| PHYS 141B Solid State Physics                                  | -    | 3      |
| AST 299, Individual Research <sup>3</sup>                      | 8    | 5      |
| Total  | 17   | 12     |
| Year 2   |      |        |
| EE 236A Quantum and Optical Electronics                        | 3    | -      |
| PHYS 240A Quantum Theory of Solids <sup>1</sup>                | 4    | -      |
| AST C225 Thin-Film Science and Technology                      | -    | 3      |
| PHYS 240B Quantum Theory of Solids <sup>1</sup>                | -    | 4      |
| AST 299, Individual Research <sup>3</sup>                      | 5    | 5      |
| Total  | 12   | 12     |
| Year 3   |      |        |
| EE 230C Solid State Electronics                                | 3    | -      |
| INDENG 290 Introduction to Management of Technology Innovation | -    | 3      |
| GSPDP 301 Mentoring in Higher Education                        | -    | 1      |
| AST 299, Individual Research <sup>3</sup>                      | 9    | 9      |
| Total  | 12   | 13     |
| Year 4   |      |        |
| AST 299, Individual Research <sup>3</sup>                      | 12   | 12     |
| Total  | 12   | 12     |
|  |      |        |
| Year 5   |      |        |
| AST 299, Individual Research <sup>3</sup>                      | 12   | 12     |
| Total  | 12   | 12     |

<sup>&</sup>lt;sup>1</sup>A 12-unit minor field connected to the application of optical physics should be established in consultation with the student's research advisor and major field advisor. Examples of minor fields would include three or four courses in one of the following areas: biology, materials science, surface physics, or environmental science.

<sup>&</sup>lt;sup>2</sup>Student generally enrolls in the 298 seminar offered by his/her research advisor.

Alternatively, student may enroll in a departmental 299 course; student should consult with research advisor.