### Sample AS&T Ph.D. Program in Plasma Assisted Materials Processing

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 210, Applied Electromagnetic Theory</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>AST/EE 239, Partially Ionized Plasmas</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Minor Field Electives</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>298, Graduate Group Seminar&lt;sup&gt;1&lt;/sup&gt;</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>AST 299, Individual Research&lt;sup&gt;2&lt;/sup&gt;</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

| Year 2 | | |
|--------| | |
| EE143, Microfabrication Technology | 4 | - |
| Major Field Electives<sup>a</sup> | 4 | 4 |
| Minor Field Elective | - | 4 |
| 298, Graduate Group Seminar<sup>1</sup> | 1 | 1 |
| AST 299, Individual Research<sup>2</sup> | 3 | 3 |
| **Total** | **12** | **12** |

| Year 3 | | |
|--------| | |
| Major Field Electives<sup>a</sup> | 3 | 3 |
| 298, Graduate Group Seminar<sup>1</sup> | 1 | 1 |
| AST 299, Individual Research<sup>2</sup> | 8 | 8 |
| **Total** | **12** | **12** |

| Year 4 | | |
|--------| | |
| 298, Graduate Group Seminar<sup>1</sup> | 1 | 1 |
| AST 299, Individual Research<sup>2</sup> | 11 | 11 |
| **Total** | **12** | **12** |

<sup>1</sup> Student generally enrolls in the 298 seminar offered by his/her research advisor.

<sup>2</sup> Alternatively, student may enroll in a departmental 299 course; student should consult with research advisor.

<sup>a</sup> The following courses are recommended, depending on the student's interest:

- Phys 242AB, Theoretical Plasma Physics (4,4)
- EE130, Integrated Circuit Devices (4)
- ChemE 179, Process Technology of Solid-State Materials Devices (3)
- EE133, Semiconductor Manufacturing Laboratory (2)
- EE 243, Advanced IC Processing and Layout (3)
- EE 231, Solid State Devices (4)
- NE 280, Fully Ionized Plasmas (3)
- NE 281, Fusion Reactor Engineering (3)