| GSU ASTRONOMY          | Y PHD PF    | ROGRAM  | even year odd ye                |                 |                |        | •      |
|------------------------|-------------|---|---------------------------------|-----------------|----------------|--------|--------|
|                        | credits     |   | fall spring                     | g summer        | fall           | spring | summer |
| CORE                   |             | Students must take all 20 credits   |                                 |                 |                |        |        |
| ASTR 6100              | 3           | Astron. Techniques & Instrumentation  | Bentz                           | 2               |                | Bentz  |        |
| ASTR 6200              | 3           | Applications in Modern Astronomy  | Lepine                          |                 | Lepine         |        |        |
| ASTR 8000              | 4           | Stellar Atmospheres and Spectroscopy  | Gies                            |                 |                |        |        |
| ASTR 8100              | 4           | Stellar Structure and Evolution   |                                 |                 | White          |        |        |
| ASTR 8300              | 3           | Interstellar Medium   | Crenshaw                        |                 |                |        |        |
| ASTR 8400              | 3           | Extragalactic Astronomy   |                                 |                 |                | Kuzio  |        |
| TEACHING               |             | Students must take all 3 credits  |                                 |                 |                |        |        |
| ASTR 6300              | 2           | Teaching Astronomy  | Wilson                          |                 | Wilson         |        |        |
| ASTR 6310              | 1           | Teaching Astronomy Practicum  | Wilson                          | n               |                | Wilson |        |
| SEMINAR                |             | Students must take all 3 credits  |                                 |                 |                |        |        |
| ASTR 8900              | 2           | Seminar - first and second year students  | ✓                               |                 | ✓              |        |        |
| ASTR 8900              | 1           | Prospectus talk - third year students   | ✓                               |                 |                | ✓      |        |
| ELECTIVES              |             | Students must take at least 9 credits of these (or                                | any other 8000-level ASTR/PH    | YS/CSC course): |                |        |        |
| ASTR 8120              | 3           | Plasma Physics and Magnetohydro.  | Marter                          | ns              |                |        |        |
| ASTR 8150              | 3           | Numerical Methods for Astro and Phys  |                                 |                 | Baron          |        |        |
| ASTR 8200              | 3           | Galactic Structure  |                                 |                 |                | Lepine |        |
| ASTR 8700              | 4           | Observational Cosmology   | Kuzio                           | )               |                |        |        |
| ASTR 8800              | 3           | Optics in Astronomy   |                                 |                 | Baron/Jefferie | es     |        |
| ASTR 8850              | 3           | Planetary Science   | Henry                           | /               |                |        |        |
| Other possible electiv | ves include | e (but not limited to):   |                                 |                 |                |        |        |
| PHYS 8010              | 4           | Classical Mechanics   | Kozhanov                        |                 | Kozhanov       |        |        |
| PHYS 8100              | 3           | E & M Theory I  | Apalkov                         |                 | Apalkov        |        |        |
| PHYS 8110              | 3           | E & M Theory II   | Dietz                           |                 |                | Dietz  |        |
| PHYS 8210              | 3           | Quantum Mechanics I   | Manson                          |                 | Manson         |        |        |
| PHYS 8310              | 3           | Statistical Mechanics   | ✓                               |                 |                | ✓      |        |
| ATTENDANCE             |             | Students must take 3 credits in the Fall and Spri                                 | ng semesters                    |                 |                |        |        |
| ASTR 8910              | 3           | Directed Study  | ✓ ✓                             |                 | ✓              | ✓      |        |
| DISSERTATION           |             | Students must take 15 credits per semester after completing their prospectus talk |                                 |                 |                |        |        |
| ASTR 9999              | 1 to 15     | Doctoral Dissertation Research  | <b>√</b>                        | <b>√</b>        | ✓              | ✓      | ✓      |
| RESEARCH               |             | Students must take as many as needed to reach a                                   | total of 25 credits per semeste | er              |                |        |        |
| ASTR 8710              | 1 to 15     | Research Topics   | <b>√ √</b>                      | ✓               | ✓              | ✓      | ✓      |