

## College of Basic and Applied Sciences Upper Division Form 2019-2020

Student name \_\_\_\_\_ Student # \_\_\_\_\_  
 Major **PHYSICS** Minor \_\_\_\_\_ (Optional)  
 Concentration **ASTRONOMY** E-mail \_\_\_\_\_

**Instructions: For students graduating in Summer 2019 or later, one (1) copy signed by major and minor advisors should be filed in DSB 120 three semesters prior to graduation. An Intent to Graduate form must be submitted with this form.**

| General Education Area   | Course         | Semester | Grade | Prerequisites/Notes   | Credit Hours |
|--|----------------|----------|-------|---|--------------|
| COMMUNICATION (9 hours)  | ENGL 1010      |          |       | Must earn a grade of C- or better                           | 3            |
|  | ENGL 1020      |          |       | Must earn a grade of C- or better                           | 3            |
|  | COMM 2200      |          |       |   | 3            |
| HISTORY (6 hours)<br>Choose two: HIST 2010, HIST 2020, HIST 2030   | HIST _____     |          |       |   | 3            |
|  | HIST _____     |          |       |   | 3            |
| HUMANITIES AND/OR FINE ARTS (9 hours) Choose one: ENGL 2020, 2030 or HUM 2610. Choose two with different prefixes: ANTH 2210, ART 1030, 1920, DANC 1000, HIST 1010, 1020, 1110, 1120, MUS 1030, PHIL 1030, THEA 1030   |                |          |       |   | 3            |
|  |                |          |       |   | 3            |
|  |                |          |       |   | 3            |
| MATHEMATICS (3 hours) Choose one:<br>MATH 1010, 1530, 1630, 1710, 1720, 1730, 1810, 1910   | MATH 1910      |          |       | MATH 1910 is required for major                             | 3            |
| NATURAL SCIENCES (8 hours) Choose two different subjects: ASTR 1030/1031, BIOL 1030/1031, BIOL 1110/1111, BIOL 2010/2011, BIOL 2020/2021, CHEM 1010/1011, CHEM 1030/1031, CHEM 1110/1111, GEOL 1030/1031, GEOL 1040/1041, PGEO 1030, PHYS 1110, PHYS 2010/2011, PHYS 2110/2111, PSCI 1030/1031, PSCI 1130/1131 | CHEM 1110/1111 |          |       | CHEM 1110/1111 is required for the major                    | 4            |
|  | PHYS _____     |          |       | See below for prerequisites; PHYS is required for the major | 4            |
| SOCIAL/BEHAVIORAL SCIENCES (6 hours)<br>Choose two (different rubrics): AAS 2100, ANTH 2010, ECON 2410, ECON 2420, EMC/JOUR/RIM 1020, GEOG 2000, GS 2010, HLTH 1530/1531, PS 1010, PS 1005, PSY 1410, RS 2030, SOC 1010, SOC 2010, WGST 2100   |                |          |       |   | 3            |
|  |                |          |       |   | 3            |
| <b>Total:</b>  |                |          |       |   | <b>41</b>    |

| Major Core (included in major GPA; 2.0 or better)   | Course                   | Semester | Grade | Prerequisites/Notes   | Credit Hours |
|---|--------------------------|----------|-------|---|--------------|
| Physics Colloquium (Fall only)  | PHYS 1010                |          |       |   | 1            |
| Introductory Physics I<br>PHYS 2010/2011 or PHYS 2110/2111<br>(PHYS 2110/2111 is offered in the Fall only)    | PHYS _____<br>PHYS _____ |          |       | PHYS 2010/2011: MATH 1710 with minimum grade of C (2.0 GPA), MATH 1730, or MATH 1910<br>PHYS 2110/2111: MATH 1910 with a minimum grade of C | 4            |
| Introductory Physics II<br>PHYS 2020/2021 or PHYS 2120/2121<br>(PHYS 2120/2121 is offered in the Spring only) | PHYS _____<br>PHYS _____ |          |       | PHYS 2020/2021: PHYS 2011<br>PHYS 2120/2121: PHYS 2111 and MATH 1920 with a minimum grade of C  | 4            |
| Modern Physics I PHYS 3100 or PHYS 3070<br>(Fall only)  | PHYS _____               |          |       | PHYS 3100: PHYS 2021 or 2121 and MATH 1920 with a minimum grade of C<br>PHYS 3070: PHYS 2021 or 2121 and MATH 1920                          | 3            |
| Modern Physics II PHYS 3110 or PHYS 3080<br>(Spring only)   | PHYS _____               |          |       | PHYS 3110: PHYS 3100<br>PHYS 3080: PHYS 3070 or PHYS 3100   | 3            |
| Modern Physics Lab (Spring only)  | PHYS 3111                |          |       | PHYS 3100 (or PHYS 3070)  | 1            |
| Thermodynamics PHYS 3610 or PHYS 3510<br>or Intermediate Physics PHYS 3400                                    | PHYS _____               |          |       | See online catalog for prerequisites; see department schedule for course offerings  | 3            |
| Physics Seminar (Spring only)   | PHYS 3800                |          |       | PHYS 3110 (or PHYS 3080)  | 1            |
| Physics Practicum   | PHYS 3900                |          |       | PHYS 3110 (or PHYS 3080) and consent of instructor  | 1            |
| Research (PHYS or ASTR)   | ____4850                 |          |       | Consent of instructor   | 2            |
| Senior Thesis (PHYS or ASTR)  | ____4900                 |          |       | PHYS 4850 or PHYS 4860 and consent of department chair  | 2            |
| <b>Major/concentration requirements are continued on the next page.</b>                                       |                          |          |       |   |              |

| Concentration (included in major GPA; 2.0 or better)    | Course    | Semester | Grade | Prerequisites/Notes                 | Credit Hours |
|---|-----------|----------|-------|-------------------------------------|--------------|
| Observing the Universe                                  | ASTR 1031 |          |       | ASTR 1030 or ASTR 2030 or ASTR 2040 | 1            |
| Solar System Astronomy (Spring of even yrs. only)       | ASTR 2030 |          |       | MATH 1710 or higher                 | 3            |
| Stars, Galaxies and Cosmology (Spring of odd yrs. only) | ASTR 2040 |          |       | MATH 1710 or higher                 | 3            |
| Fundamentals of Astrophysics (Fall of even yrs. only)   | ASTR 3400 |          |       | PHYS 2021 or 2120 and MATH 1910     | 3            |
| Experimental Astronomy (Fall of even yrs. only)         | ASTR 3401 |          |       | PHYS 2021 or 2120                   | 1            |
| <b>36 hours in major GPA</b>                            |           |          |       | <b>Total:</b>                       | 36           |

| Supporting (excluded from major GPA)  | Course                 | Semester | Grade | Prerequisites/Notes  | Credit Hours |
|---|------------------------|----------|-------|--|--------------|
| Calculus I  | MATH 1910              |          |       | Pre-req: MATH 1730 with a C(2.0) or higher, ACT MATH of 26, or Calculus Placement test with satisfactory score; must earn a grade of C(2.0) or higher; 3 credits also count in general education | 4            |
| Calculus II   | MATH 1920              |          |       | MATH 1910 with a minimum grade of C  | 4            |
| Differential Equations or Theoretical Physics I (PHYS 3150 is offered in the Fall only) | MATH 3120 or PHYS 3150 |          |       | MATH 3120: MATH 1920 with a minimum grade of C<br>PHYS 3150: PHYS 2021 or 2121 and MATH 1920 with a minimum grade of C   | 3            |
| General Chemistry I   | CHEM 1110/1111         |          |       | High school chemistry; credits counted in general education  | 0            |
| General Chemistry II  | CHEM 1120/1121         |          |       | CHEM 1110/1111 with a minimum grade of C-  | 4            |
| Computer Science I  | CSCI 1170              |          |       | MATH 1730 with a C(2.0) or higher, ACT MATH of 26, or Calculus Placement test with satisfactory score  | 4            |
|   |                        |          |       | <b>Total:</b>  | 19           |

Note: At least 19 credits of elective hours must be upper division (3000/4000 level).

| Minor (Minor is Optional) | Course                        | Semester | Grade | Notes | Credit Hours |
|---------------------------|-------------------------------|----------|-------|-------|--------------|
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
|                           |                               |          |       |       |              |
| <b>Total:</b>             |                               |          |       |       |              |
| <b>Signed:</b>            |                               |          |       |       |              |
|                           | Minor Advisor (if applicable) |          |       |       | Date         |

1. Degrees require a minimum of 120 semester hours (12 of the last 18 at MTSU) with a 2.0 GPA, a minimum of 42 upper-division hours (30 at MTSU) with a 2.0 GPA, and a minimum of 60 senior college hours.

2. Learning Support courses count toward the 120-hour requirement and the overall GPA.

|                |                 |  |  |  |      |
|----------------|-----------------|--|--|--|------|
| <b>Signed:</b> |                 |  |  |  |      |
|                | Physics Advisor |  |  |  | Date |