

## "Elementary Particle(High-Energy) Physics(Experimental)" guidelines of the standard curriculum

2021~

### <integrated master-doctoral degree program>

| Semester      | Course   | Credit |                        |
|---------------|--|--------|------------------------|
| 1             | CLASSICAL MECHANICS                              | 3      | Required(Major common) |
|               | CLASSICAL ELECTROMAGNETIC THEORY I               | 3      | Required(Major common) |
|               | QUANTUM MECHANICS I                              | 3      | Required(Major common) |
|               | SPECIAL TOPICS IN ADVANCED PHYSICS I(Seminar)    | 3      | Major(Choose 1)        |
| 2             | CLASSICAL ELECTROMAGNETIC THEORY II              | 3      | Required(Major common) |
|               | QUANTUM MECHANICS II                             | 3      | Required(Major common) |
|               | WRITING PHYSICS PAPERS                           | 3      | Required(Major common) |
|               | SPECIAL TOPICS IN ADVANCED PHYSICS II(Seminar)   | 3      | Major(Choose 1)        |
| 3             | SPECIAL TOPICS IN DETECTOR THEORY                | 3      | Major(Choose 1)        |
|               | ELEMENTARY PARTICLES PHYSICS I                   | 3      | Required(Major)        |
|               |  |        |                        |
| 4             | ADVANCED COMPUTATIONAL PHYSICS                   | 0      | Major(Choose 1)        |
|               | HIGH ENERGY PHYSICS DATA ANALYSIS                | 0      | Major(Choose 1)        |
|               | EXPERIMENTAL PHYSICS                             | 3      | Required(Major common) |
|               |  |        |                        |
| 5             | SPECIAL TOPICS IN ELEMENTARY PARTICLE PHYSICS I  | 0      | Major(Choose 1)        |
|               | SPECIAL TOPICS IN QUANTUM FIELD THEORY           | 0      | Major(Choose 1)        |
|               | RESEARCH IN HIGH ENERGY PHYSICS                  | 0      | Major(Choose 1)        |
|               |  |        |                        |
| 6             | Special Topics in High Energy physics            | 0      | Major(Choose 1)        |
|               | SPECIAL TOPICS IN ELEMENTARY PARTICLE PHYSICS II | 0      | Major(Choose 1)        |
|               |  |        |                        |
|               |  |        |                        |
| Total Credits |  | 48     |                        |

\*Students for the integrated program are required to complete 48 credits in total.

\*Insufficient credits can be freely taken according to your choice.

### <master's degree>

| Semester      | Course                             | Credit |                        |
|---------------|------------------------------------|--------|------------------------|
| 1             | CLASSICAL MECHANICS                | 3      | Required(Major common) |
|               | CLASSICAL ELECTROMAGNETIC THEORY I | 3      | Required(Major common) |
|               | QUANTUM MECHANICS I                | 3      | Required(Major common) |
|               |                                    |        |                        |
| 2             | WRITING PHYSICS PAPERS             | 3      | Required(Major common) |
|               | EXPERIMENTAL PHYSICS               | 3      | Required(Major common) |
|               |                                    |        |                        |
|               |                                    |        |                        |
| 3             | ELEMENTARY PARTICLES PHYSICS I     | 3      | Required(Major)        |
|               | SPECIAL TOPICS IN DETECTOR THEORY  | 3      | Major(Choose 1)        |
|               |                                    |        |                        |
|               |                                    |        |                        |
| 4             | ADVANCED COMPUTATIONAL PHYSICS     | 3      | Major(Choose 1)        |
|               |                                    |        |                        |
|               |                                    |        |                        |
|               |                                    |        |                        |
| Total Credits |                                    | 24     |                        |

\*Students for the master's degree are required to complete 24 credits in total.

### <doctoral degree>

| Semester      | Course   | Credit |                        |
|---------------|--|--------|------------------------|
| 1             | SPECIAL TOPICS IN ADVANCED PHYSICS I(Seminar)    | 3      | Major(Choose 1)        |
|               | SPECIAL TOPICS IN ELEMENTARY PARTICLE PHYSICS I  | 3      | Major(Choose 1)        |
|               | HIGH ENERGY PHYSICS DATA ANALYSIS                | 3      | Major(Choose 1)        |
|               | ELEMENTARY PARTICLES PHYSICS II                  | 3      | Major(Choose 1)        |
| 2             | CLASSICAL ELECTROMAGNETIC THEORY II              | 3      | Required(Major common) |
|               | QUANTUM MECHANICS II                             | 3      | Required(Major common) |
|               | SPECIAL TOPICS IN ADVANCED PHYSICS II(Seminar)   | 3      | Major(Choose 1)        |
|               |  |        |                        |
| 3             | SPECIAL TOPICS IN QUANTUM FIELD THEORY           | 0      | Major(Choose 1)        |
|               | SPECIAL TOPICS IN ELEMENTARY PARTICLE PHYSICS II | 0      | Major(Choose 1)        |
|               | Special Topics in High Energy physics            | 0      | Major(Choose 1)        |
|               |  |        |                        |
| 4             | RESEARCH IN HIGH ENERGY PHYSICS                  | 0      | Major(Choose 1)        |
|               | RESEARCH IN ELEMENTARY PARTICLE PHYSICS          | 0      | Major(Choose 1)        |
|               |  |        |                        |
|               |  |        |                        |
| Total Credits |  | 30     |                        |

\*Students for the doctoral degree are required to complete 30 credits in total.

\*Insufficient credits can be freely taken according to your choice.