**Syllabus (2021-Spring)**

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| Course Title | Genetics | Course No. | 30249 |
| Department/ Major | Life Science | Credit/Hours | 3/3 |
| Class Time/ Classroom | Tuesday 12:30-1:45, Friday 2:00-3:15 | | |
| Instructor | Name Yuseob Kim | Department Life Science | |
| E-mail yuseob@ewha.ac.kr | Phone 02 3277 3435 | |
| Office Hours/ Office Location | TBA | | |

**Ⅰ. Course Overview**

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| 1. Course Description |
| It is a lecture-based course covering all major topics of genetics, including transmission genetics, cytogenetics, molecular/developmental genetics, and population/evolutionary genetics. Lecture slides, planned to be posted a day before class, will provide information regarding which subjects and topics students should focus to prepare examination. This year classes will be held online using Zoom application. In addition, there will be quizzes during class - interactive real-time questions given on CyberCampus. |

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| 2. Prerequisites |
| General Biology |

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| 3. Course Format |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Lecture | Discussion/Presentation | Experiment/Practicum | Field Study | Other | | 100 % | % | % |  | % |   (Instructor can change to match the actual format of the class.)  Explanation of course format: |

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| 4. Course Objectives |
| Genetics is fundamentally important for understanding diverse processes and systems in all basic and applied branches of biological sciences. The teaching of genetics is however distinguished from that of other major subjects in biology, for example biochemistry, cell biology, developmental biology and ecology, as students' conceptual understanding usually advances through frequent problem-(puzzle-)solving activities. The major aim of this course is to provide students with skills in solving various genetic problems as well as in-depth knowledge in modern genetics. |

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| 5. Evaluation System |
| ☐ Relative evaluation ▣ Absolute evaluation ☐ Others :  - Explanation of evaluation system:   |  | | --- | | Final grades will be based on the following system:  final score letter grade  90 ~ 100 A+  82 ~ 90 A  77 ~ 82 A-  69 ~ 77 B+  61 ~ 69 B  54 ~ 61 B-  47 ~ 54 C+  40 ~ 47 C  33 ~ 40 C- |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Midterm Exam | Final Exam | Quizzes | Presentation | Projects | Assignments | Participation | Other | | 47% | 47% | 3% | % | % | 3% | % | % |   \* Evaluation of group projects may include peer evaluations. |

**Ⅱ. Course Materials and Additional Readings**

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| 1. Required Materials |
| Essentials of Genetics, 10th edition, by WS Klug, MR Cummings, CA Spencer, and MA Palladino, 2013 Pearson/Benjamin Cummings (8th or 9th edition will be just fine) |
| 2. Supplementary Materials |
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| 3. Optional Additional Readings |
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**Ⅲ. Course Policies**

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| \* For laboratory courses, all students are required to complete lab safety training. |

**Ⅳ. Course Schedule (15 credit hours must be completed.)**

| Week | Date | Topics & Class Materials, Assignments |
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| **Week 1** | (3/2) | Introduction |
| (3/5) | Mitosis and Meiosis |
| **Week 2** | (3/9) | Mitosis and Meiosis |
| (3/12) | Modification of Mendelian Ratios |
| **Week 3** | (3/16) | Modification of Mendelian Ratios |
| (3/19) | Sex Determination |
| **Week 4** | (3/23) | Sex Chromosomes |
| (3/26) | Chromosome Mutations |
| **Week 5** | (3/30) | Linkage |
| (4/2) | Genome Structure and Transposable Element |
| **Week 6** | (4/6) | Genome Structure and Transposable Element |
| (4/9) | Bacterial Genetics |
| **Week 7** | (4/13) | Bacterial Genetics |
| (4/16) | Reviews and Discussion |
| **Week 8** | (4/20) | Mid-term Exam |
| (4/23) | No class |
| **Week 9** | (4/27) | Prokaryotic Gene Regulation |
| (4/30) | Prokaryotic Gene Regulation |
| **Week 10** | (5/4) | Eukaryotic Gene Regulation and Epigenetics |
| (5/7) | Eukaryotic Gene Regulation and Epigenetics |
| **Week 11** | (5/11) | Genetics of Development |
| (5/14) | Genetics of Development |
| **Week 12** | (5/18) | Genetics of Development |
| (5/21) | Quantitative Genetics |
| **Week 13** | (5/25) | Quantitative Genetics |
| (5/28) | Population/Evolutionary Genetics |
| **Week 14** | (6/1) | Population/Evolutionary Genetics |
| (6/4) | Population/Evolutionary Genetics |
| **Week 15** | (6/8) | Reviews and Discussions |
| (6/11) | Final Exam |
| Makeup Class | (mm/dd) |  |
| Makeup Class | (mm/dd) |  |

**Ⅴ. Special Accommodations**

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| \* According to the University regulation section #57-3, students with disabilities can request for special accommodations related to attendance, lectures, assignments, or tests by contacting the course professor at the beginning of semester. Based on the nature of the students’ request, students can receive support for such accommodations from the course professor or from the Support Center for Students with Disabilities (SCSD). Please refer to the below examples of the types of support available in the lectures, assignments, and evaluations.   |  |  |  | | --- | --- | --- | | Lecture | Assignments | Evaluation | | ․ Visual impairment : braille, enlarged  reading materials  ․ Hearing impairment : note-taking  assistant  ․ Physical impairment : access to classroom,  note-taking assistant | Extra days for submission,  alternative assignments | ․ Visual impairment : braille examination paper,  examination with voice support, longer  examination hours, note-taking assistant  ․ Hearing impairment : written examination  instead of oral  ․ Physical impairment : longer examination  hours, note-taking assistant |   - Actual support may vary depending on the course. |

\* The contents of this syllabus are not final—they may be updated.