

## 履修方法・修了要件

人間総合科学学術院 人間総合科学研究群 一貫制博士課程  
ヒューマンバイオロジー学位プログラム(5D)

| 科目区分   | 科目群等            |              | 条件又は科目名等                 | 修得単位数    |
|--------|-----------------|--------------|--------------------------|----------|
| 基礎科目   | ヒューマンバイオロジー関連科目 | イニシエーション科目   | 必修<br>選択                 | 3<br>0~1 |
|        |                 | 基礎科目         | 必修<br>選択                 | 1<br>0~6 |
|        |                 | 国際科目         | 選択必修(1科目履修)              | 5~20     |
|        |                 | 応用国際科目       | 選択                       | 0~50     |
|        | 大学院共通科目:全学科目    | トランスフェラブルスキル | 選択                       | 0~10     |
| 専門基礎科目 | ヒューマンバイオロジー関連科目 | 医科学          | 必修<br>選択                 | 8<br>0~1 |
|        |                 | 分子科学         | 選択(3科目履修)                | 3~8      |
|        |                 | 数学と計算科学      | 必修<br>選択(必修1科目を含め3科目履修)) | 2<br>2~8 |
|        |                 | その他          | 選択                       | 0~6      |
| 専門科目   | ヒューマンバイオロジー関連科目 |              | 必修                       | 36       |
| 修了単位数  |                 |              |                          | 72       |

## (修了要件等)

・5年以上在学し、学位プログラムごとに定める修了の要件として必要な授業科目の履修により所定の単位を修得し、かつ、必要な研究指導を受けた上、博士論文の審査及び最終試験に合格すること。ただし、在学期間に関しては、優れた研究業績を上げた者については3年以上在学すれば足りるものとする。

・大学院学則第3条の2第2項に規定する課程の目的を充足した上で、次の能力を有することがQualifying Examination 1 (QE1)、Qualifying Examination 2 (QE2)及び最終試験において認定されること。

ア 世界に貢献するという明確な意思及び真摯な態度

イ 国際的な英語力検定試験で保証された英語力

ウ 国際社会で自在に交渉することができるコミュニケーション能力

エ 我が国の医師に匹敵するヒトに関する生物学の専門基礎知識

オ 生命科学、計算科学及び物質科学を駆使し社会ニーズが高い課題を自立して解決する能力

カ 査読付き学術論文を2報以上発表(うち1報以上は筆頭著者であること)。ただし、企画書型の学位論文を申請する場合は1報以上発表

キ 学生の自己成長を促進する形成的評価システム(GLiD)における規定以上の達成度

・ヒトの生物学の分野において、独創的で優れたテーマの設定を行い、博士の学位に相応しい成果が得られ、相応しい体裁にまとめられていること並びに当該分野の社会のニーズを理解し、必要とされる実施目的を設定して、自らの力で研究・実践を推進する能力、総括する能力及び産業界又は学術界から国際的に高い評価を得られる企画書・提案書・学術論文を公表する

## (履修方法)

次の履修方法により72単位以上を修得すること。

(1) ヒューマンバイオロジー関連科目の1,2年次の配当科目のうち、次の科目を含めて合計60単位以上

・基礎科目 イニシエーションセミナー、世界のサイエンスリーダーズセミナー、ビジネスリーダーズセミナー、科学倫理により4単位、及び選択必修5単位以上

・専門基礎科目 人体解剖学・発生学、人体病理学・腫瘍学、ヒトの感染と免疫、ヒトの内分泌・代謝学、基礎計算生物学

・専門科目の1,2年時配当科目 26単位

(2) ヒューマンバイオロジー関連科目の専門科目の3年次の配当科目 10単位

## (注)

教育上有益と認められる場合には、10単位を限度として他の学位プログラムの授業科目の履修により修得した単位を修了の要件となる

単位として認めることができる。

Degree Requirements and Criteria for Program Completion

**Doctral Program in Human Biology, School of Integrative and Global Majors (Five-year Consecutive Doctoral Program)**

**【Degree】**

| School                                  | Program                          | Degree                                |
|---|----------------------------------|---------------------------------------|
| School of Integrative and Global Majors | Doctral Program in Human Biology | Doctor of Philosophy in Human Biology |

**【Degree Requirements and Criteria for Program Completion】**

| Subject Category   | Classification of Subject Category | Subject Area                           | Types of Subject and Conditions of Registration  | Number of Credits Required |
|--|------------------------------------|--|--|----------------------------|
| Basic Subjects   | Human Biology-related subject      | Initiation Subjects                    | Compulsory   | 3                          |
|  |                                    |  | Elective   | 0-1                        |
|  |                                    | Basic Subjects                         | Compulsory   | 1                          |
|  |                                    |  | Elective   | 0-6                        |
|  |                                    | International Subjects                 | Compulsory Elective<br>(Note: Students must take at least one 5-credit Course in International Subjects.)*                                   | 5-20                       |
|  |                                    | Advanced International Subjects        | Elective   | 0-50                       |
| Graduate General Education Courses                       |                                    | Transferable Skills                    | Elective***  | 0-10                       |
| Basic Specialized Subjects                               | Human Biology-related subject      | Medical Subjects                       | Compulsory   | 8                          |
|  |                                    |  | Elective   | 0-1                        |
|  |                                    | Molecular Subjects                     | Elective<br>(Note: Students must take at least three Molecular subjects)   | 3-8                        |
|  |                                    | Mathematics and Computational Subjects | Compulsory   | 2                          |
|  |                                    |  | Elective<br>(Note: Students must take more than three courses, including one compulsory subject in Mathematics and Computational Subjects.)* | 2-8                        |
| others   | Elective                           | 0-6                                    |  |                            |
| Specialized Subjects                                     | Human Biology-related subject      |  | Compulsory   | 36                         |
| Total Number of Credits Required to Complete the Program |                                    |  |  | 72                         |

(Degree Requirements)

\*In the first two years of the program, students must earn more than 60 credits, including the following **COMPULSORY** credits; 3 credits in Initiation Subjects; 1 credit from Basic Subjects; 10 credits in Medical Subjects and Mathematics and Computational Subjects; 26 credits in Specialized Subjects; and at least 5 **COMPULSORY ELECTIVE** credits from International Subjects.

\*\*In the third year of the program, the student must earn more than 72 credits, including 10 **COMPULSORY** credits from Specialized Subjects, in addition to all credits previously earned during his or her first two years of the program.

\*\*\*As **ELECTIVES**, 72 credits may include up to 10 credits earned through Transferable Skills and courses offered by other graduate schools and programs at the University of Tsukuba.

(Criteria for Program Completion)

· Students must fulfill the following requirements:

Take the necessary subjects to complete the program, earn more than 72 credits, receive the necessary research guidance, submit a doctoral dissertation, and pass its review and the final examination.

5 years or more school attendance is required. However, for those who demonstrate outstanding research performance during their period of attendance, three years total or more of graduate school attendance will suffice.

· Upon satisfying the requirements of the program as stipulated in Article 3-2, Paragraph 3 of the Graduate School Rules of the University of Tsukuba, the student will take Qualifying Examination 1 (QE1), Qualifying Examination 2 (QE2), and a final examination to determine if he or she has attained the proficiencies given below.

- a) A sincere and genuine desire to make a contribution to the world;
- b) Proficiency in English as demonstrated by passing an internationally recognized test of English language proficiency;
- c) The ability to communicate effectively in global settings;
- d) Fundamental knowledge focused on Human Biology equivalent to that of a Japanese physician;
- e) Ability to independently solve pressing social problems in the community through a good command over life sciences, computational science, and materials science;
- f) Publish more than two or more peer-reviewed papers, yet if applying for a dissertation defense with a business proposal, publish more than one or more peer-reviewed papers; or
- g) An achievement exceeding that stipulated in the Guideline for the Growth and Learning identification powered by Instructional Design (GLiDD).

· The student must fulfill the following requirements in the field of Human Biology:

Propose original, high-quality business or research topics. Achieve results appropriate for the doctoral level. In addition, the student must demonstrate the ability to understand the social needs of the relevant field, commit to the necessary aims to be achieved, demonstrate the ability to synthesize and generalize information, conduct independent research/experiments, and publish business proposals or peer-reviewed research papers with the potential to be internationally recognized in both industry and academia.