

# Requirements for Awarding Degrees and Criteria for Applying for Doctoral Degrees from the Graduate School of Innovation and Practice for Smart Society at Hiroshima University

Approved by the Dean of the Graduate School on April 1, 2023

(Revised) April 18, 2025. (Purpose)

Article 1: The purpose of the present requirements is to stipulate the necessary matters not specified in By-laws of the Graduate School of Innovation and Practice for Smart Society (approved by the Dean of the Graduate School on April 1, 2023, hereafter, the “By-laws”) and Internal Regulations of the Graduate School of Innovation and Practice for Smart Society Graduate School of Innovation and Practice for Smart Society at Hiroshima University (approved by the Dean of the Graduate School on April 1, 2023) regarding the requirements for awarding degrees and criteria for applying for doctoral degrees from the Graduate School of Innovation and Practice for Smart Society at Hiroshima University.

(Requirements for Awarding Degrees)

Article 2: The requirements for awarding Doctoral Degrees shall be as follows.

- (1) Must satisfy each standard specified in the Article 3 and 4 of Decision Criteria for Awarding Degrees and Evaluation Standards for Degree Theses of the Graduate School of Innovation and Practice for Smart Society at Hiroshima University (approved by the Dean of the Graduate School on April 1, 2023).
- (2) For doctoral degrees earned by completing the course, must satisfy the requirements of the completion specified in the Article 16 of By-laws.
- (3) For doctoral degrees earned mainly by writing a dissertation, must submit a doctoral dissertation and pass the dissertation screening and final examination.
- (4) A degree applicant must satisfy the criteria set by each research field in the following table before he/she takes the Preliminary Examination of Doctoral Dissertation.

Research Field	Doctoral Degree by Completing the Required Courses	Doctoral Degree Mainly by Writing a Dissertation
Cyber Physical System	In principle, at least three (3) peer-reviewed academic papers published in journals of related academic associations, etc., or international conference papers (including those that have been decided to be published, with at least one of which must be a journal paper of first authorship).	In principle, at least four (4) peer-reviewed academic papers published in journals of related academic associations, etc. (including those that have been decided to be published, with at least one (1) of which must be a paper of first authorship), and at least one (1) international conference paper of first authorship (including those that have been decided to be published).
Smart Mobility	At least two (2) peer-reviewed academic papers published in journals of related academic associations, etc. (including those that have been decided to be published, both of which must be papers of first authorship, and at least one (1) paper with impact factors).	At least three (3) peer-reviewed academic papers published in journals of related academic associations, etc. (including those that have been decided to be published, all of which must be papers of first or corresponding authorship, and at least one (1) paper with impact factors).
Smart Energy	At least two (2) peer-reviewed academic papers published in journals of related academic associations, etc. (including those that have been decided to be published, with at least one (1) of which must be a paper of first authorship).	At least three (3) peer-reviewed academic papers published in journals of related academic associations, etc. (including those that have been decided to be published, with at least one (1) of which must be a paper of first authorship).
Smart Agriculture	At least one (1) reference paper published in peer-reviewed journals. (including one (1) that has been decided to be published, and that of which must be a paper of first authorship).	At least two (2) reference papers published in peer-reviewed journals. (including those that have been decided to be published, both of which must be papers of first or corresponding authorship).

Global Health and Medical Science	At least one (1) paper published in the journal of either (i) or (ii) (including one (1) that has been decided to be published). (i) Journals searchable by “Journal Citation Reports.” ( <a href="http://www.isiknowledge.com/JCR">http://www.isiknowledge.com/JCR</a> ) (ii) “Hiroshima Journal of Medical Science.”	At least one (1) paper published in the journal of (i) (including one (1) that has been decided to be published). (i) Journals searchable by “Journal Citation Reports” ( <a href="http://www.isiknowledge.com/JCR">http://www.isiknowledge.com/JCR</a> ).
Social Innovation Science	At least one (1) paper published in SCIE/ SSCI/ AHCI/ ESCI (including one (1) that has been accepted). However, at least two (2) papers if those are published in a peer-reviewed journal other than SCIE/ SSCI/ AHCI/ ESCI.	At least three (3) papers or equivalent writing works published in peer-reviewed journals. In addition, at least one (1) paper with impact factors (at least one (1) citation if those were published in (SCIE/ SSCI/ AHCI/ ESCI).

(5) A degree applicant must satisfy the necessary requirements set by each research field.

(Degrees to be conferred)

Article 3: In the case of a doctoral degree by mainly completing the required courses and a doctoral degree mainly by writing a dissertation, the most appropriate degree among those listed in the right column of the following table shall be conferred, according to the research field to which the dissertation committee chair belongs and the contents of the doctoral dissertation.

Research Fields	Degrees
Cyber Physical System	Doctor of Philosophy Doctor of Philosophy in Engineering Doctor of Philosophy in Informatics and Data Science
Smart Mobility	Doctor of Philosophy Doctor of Philosophy in Engineering
Smart Energy	Doctor of Philosophy Doctor of Philosophy in Engineering
Smart Agriculture	Doctor of Philosophy Doctor of Philosophy in Agriculture
Global Health and Medical Science	Doctor of Philosophy Doctor of Philosophy in Health Science Doctor of Philosophy in Medical Science
Social Innovation Science	Doctor of Philosophy Doctor of Philosophy in Economics

(Other)

Article 4: Any necessary matters relevant to the details of the procedures of doctoral degree dissertation by completing the required courses not stipulated in the present requirements shall be determined by Guidelines for Completion of the Doctoral Course of the Graduate School of Innovation and Practice for Smart Society at Hiroshima University  
(Approved by the Dean of the Graduate School on April 1, 2023)

(2) If a case arises that makes it difficult to comply with this requirement, it shall be determined deliberations by the Admissions and Academic Affairs Committee.

#### Supplementary Provisions

The present internal regulations shall come into force on April 1, 2023.

#### Supplementary Provisions (Partially revised on April 18, 2025)

- 1 The present By-laws shall come into force on April 18, 2025, and the revised version of Requirements for Awarding Degrees and Criteria for Applying for Doctoral Degrees from the Graduate School of Innovation and Practice for Smart Society at Hiroshima University (hereinafter called “the New Requirements”) is applied from April 1, 2025.

- 2 The provisions then in force regarding the requirements for awarding degrees (Doctoral Degree by Completing the Required Courses) for students admitted before FY2024 shall remain applicable, regardless of the stipulations set forth in the New Requirements. However, enrollment period shall be the beginning of a semester.