

Milestone / capstone indicators for the Master's Course

Milestones (spring entrance : by November of M2, autumn entrance : by May of M2):

As a general rule, receive a B or higher grade for the "4. Research plan", and receive Cs or higher grades for 5 or more out of the 11 items that exclude "6. How to show research method" in the rubric table below

Capstone (spring entrance : February of M2, autumn entrance : August of M2):

As a general rule, receive Bs or higher grades for 5 or more of the 12 items that exclude "4. Research plan", and there are no D grades, for completion of the Master's Course

Rubric table

	Evaluation	A (advanced)	B (accomplished)	C (developing)	D (beginning)	Remarks
1	Establish theme	After the research theme is established, the background and objectives of that research are clearly organized and analyzed, and then an explanation is made including the significance if the issue is achieved.	The research theme is established and the background and objectives of that research as well as the significance if the issue is achieved are explained.	The research theme is established, but an explanation of the background and objectives of the research are not clear.	The research theme is under consideration.	
2	Knowledge/ understanding	Understand and sufficiently explain previous researches as well as knowledge that is basic or of relevant fields of the research theme that has been established.	Understand previous researches as well as knowledge that is basic or of relevant fields of the research theme that has been established.	Understand basic knowledge related to the research theme that has been established, but knowledge of previous researches is insufficient.	Almost no understanding of basic knowledge related to the research theme that has been established.	
3	Originality	Encompassing any relevant previous researches, originality of the research theme is clear.	Certain aspects of own research theme is similar to that of relevant previous researches, but originality of research theme is recognized.	There is precedence to the research theme, but a certain degree of originality is recognized.	There is precedence to the research theme, and any degree of originality cannot be recognized.	*Content of Master's and Doctoral is different.
4	Research plan	A research plan is being prepared through consultation with the academic supervisor and the timing and content of specific research activities such as an advance research survey, data collection for the theme, result analysis, and writing of thesis, etc. are clear.	A research plan is being prepared through consultation with the academic supervisor and the timing and content of research activities such as an advance research survey, data collection for the theme, result analysis, and writing of thesis, etc. are relatively apparent.	A research plan is being prepared through consultation with the academic supervisor but the timing and content of research activities such as an advance research survey, data collection for the theme, result analysis, and writing of thesis, etc. are not clear.	A research plan has not been prepared. Or, a research plan has been prepared but content is lacking or incomplete and cannot be accepted as a research plan.	*Milestone only
5	Relevance of research methods	Based on the feasibility of previous research surveys and methods, research methods and materials that are deemed suitable for solving the research theme have been selected. Also, the best option has been considered by, for example, looking into multiple methods.	Based on the feasibility of previous research surveys and methods, research methods and materials that are deemed suitable for solving the research theme have been selected.	Examining whether the research method is the most suitable for solving the research theme is insufficient, or other more suitable methods and materials exist.	There has been no examining into suitable research methods for solving the research theme.	
6	Presenting research method	A research method is presented utilizing academic methods such as referencing literary citations, and researchers with equivalent knowledge and techniques would be able to reproduce the research results. Or, explanation of the research method is excellent as a general review.	A research method is presented utilizing academic methods such as referencing literary citations, and researchers with equivalent knowledge and techniques would be able to reproduce the research results.	A research method is presented, but even researchers in the same field would have difficulty understanding the research method.	A research method is not presented and researchers in the same field would not be able to assume research method.	*Capstone only
7	Results quantity and quality **"Results" refer to those of experiment, calculation, design, prototyping, programming, collection, etc.	Sufficient results in terms of quantity and quality have been obtained in order to achieve the purpose of the research.	The minimum amount of quantitative and qualitative results necessary to achieve the purpose of the research has been obtained.	Quantitative and qualitative results are insufficient to achieve the purpose of the research.	Results that are needed to achieve the purpose of the research have not been obtained.	
8	Evaluation of experimental data	Analysis in line with the research purpose and method has been conducted, and in addition to evaluation by statistical analysis, etc., evaluation is also done in an integrated manner in multiple ways.	Analysis in line with the research purpose and method has been conducted, and evaluation by statistical analysis, etc. has been made.	Analytical results from statistical analysis, etc. are shown, but a more suitable evaluation method is conceivable.	Evaluation with results from statistical analysis, etc. has not been made.	
9	Suitability of charts, etc.	Results are presented with innovative charts, etc. that make the research results very easy to understand, and the contents can be readily understood by researchers of different fields.	Results are presented with charts, etc. and research results can be understood.	Results are presented with charts, etc. and results are comprehensible but leave room for improvement.	Results are presented with charts, etc. but the contents are not organized and cannot be understood.	
10	Consideration of results **"Results" means experiment, calculation, design, prototyping, programming, collection, etc.	Based on the experiment results and reference materials obtained, objective and impartial interpretation is performed. Consideration of reproducibility, accuracy of results, exceptional results, etc. are also appropriate. Also, implications of the results have been considered from multiple perspectives.	Based on the experiment results and reference materials obtained, objective and impartial interpretation is performed. Consideration of reproducibility, accuracy of results, exceptional results, etc. are also appropriate.	There are no misunderstanding regarding the interpretation of the experiment results, but there are insufficient aspects in the consideration of reproducibility and accuracy of the results.	Interpretation of results has not been made, or there are misunderstandings with regards to portions of the interpretation of the results.	
11	Significance and development of research results	The research results obtained are discoveries of innovative knowledge or completely new events in the relevant field and it will undoubtedly lead to a more important research, or being put to good use in society can be highly foreseen.	The research results obtained are discoveries of meaningful knowledge and new events in the relevant field and it can be said to a certain degree that they will lead to a more important research or be put to good use in society.	Whether the knowledge obtained is meaningful in the relevant field leaves a certain level of doubt.	It cannot be said that meaningful knowledge in the relevant field was obtained.	
12	Oral presentation and organization of papers	Oral presentation or paper are logically structured, and it is easy for researchers in different fields to understand.	Oral presentation or paper are logically structured.	It is difficult to say that the oral presentation or paper are logically structured and there is room for improvement.	The oral presentation or paper are not logically structured and they are difficult to understand.	*Oral presentation: milestone *Paper: capstone
13	International communication skills	Presentations in English are being made at international conferences, etc. Or there is active involvement in international collaborative researches.	Presentations in English are being made on campus or within collaborative research groups. Or he/she can give guidance in English to international students regarding experiments, etc.	Daily conversation in English can be had with international students on campus and within the laboratories.	Communication in English with international students is difficult.	*Items with different content in the first and second term

Milestone/ capstone indicator for Doctoral Course

Milestone (1) (spring entrance : by November of D1, autumn entrance : by May of D1):

As a general rule, receive B grades for 3 or more out of the remaining 12 items excluding "6. How to show research method" in the following rubric table.

Milestone (2) (spring entrance : by November of D2, autumn entrance : by May of D2):

As a general rule, in the rubric table below, receive a B or higher grade for "4. Research plan" and Bs or higher grades for 4 or more out of the 11 items that exclude "6. How to show research method", and there are no more than 3 items that are D grades.

Milestone (3) (spring entrance : by November of D3, autumn entrance : by May of D3):

As a general rule, in the rubric table below, receive a B or higher grade in "4. Research plan", and Bs or higher grades for 5 or more out of the 11 items that exclude "6. How to show research method", and there are no items that are D grades.

Capstone (spring entrance : February of D3, autumn entrance : August of D3):

As a general rule, in the rubric table below, receive Bs or higher grades for all items for completion of the Doctoral Course.

Rubric table

	Evaluation	A (advanced)	B (accomplished)	C (developing)	D (beginning)	Remarks
1	Establish theme	After the research theme is established, the background and objectives of that research are clearly organized and analyzed, and then an explanation is made including the significance if the issue is achieved.	The research theme is established and the background and objectives of that research as well as the significance if the issue is achieved are explained.	The research theme is established, but an explanation of the background and objectives of the research are not clear.	The research theme is under consideration.	
2	Knowledge/ understanding	Understand and sufficiently explain previous researches as well as knowledge that is basic or of relevant fields of the research theme that has been established.	Understand previous researches as well as knowledge that is basic or of relevant fields of the research theme that has been established.	Understand basic knowledge related to the research theme that has been established, but knowledge of previous researches is insufficient.	Almost no understanding of basic knowledge related to the research theme that has been established.	
3	Originality	Encompassing any relevant previous researches, originality of the research theme is clear, and it is also evident that the research theme is challenging in the relevant field.	Encompassing any relevant previous researches, originality of the research theme is clear.	Certain aspects of own research theme is similar to that of relevant previous researches, but originality of research theme is recognized.	There is precedence to the research theme, and any degree of originality cannot be recognized.	*Content of Master's and Doctoral is different.
4	Research plan	A research plan is being prepared through consultation with the academic supervisor and the timing and content of specific research activities such as an advance research survey, data collection for the theme, result analysis, and writing of thesis, etc. are clear.	A research plan is being prepared through consultation with the academic supervisor and the timing and content of research activities such as an advance research survey, data collection for the theme, result analysis, and writing of thesis, etc. are relatively apparent.	A research plan is being prepared through consultation with the academic supervisor but the timing and content of research activities such as an advance research survey, data collection for the theme, result analysis, and writing of thesis, etc. are not clear.	A research plan has not been prepared. Or, a research plan has been prepared but content is lacking or incomplete and cannot be accepted as a research plan.	*Milestone only
5	Relevance of research methods	Based on the feasibility of previous research surveys and methods, research methods and materials that are deemed suitable for solving the research theme have been selected. Also, the best option has been considered by, for example, looking into multiple methods.	Based on the feasibility of previous research surveys and methods, research methods and materials that are deemed suitable for solving the research theme have been selected.	Examining whether the research method is the most suitable for solving the research theme is insufficient, or other more suitable methods and materials exist.	There has been no examining into suitable research methods for solving the research theme.	
6	Presenting research method	A research method is presented utilizing academic methods such as referencing literary citations, and researchers with equivalent knowledge and techniques would be able to reproduce the research results. Or, explanation of the research method is excellent as a general review.	A research method is presented utilizing academic methods such as referencing literary citations, and researchers with equivalent knowledge and techniques would be able to reproduce the research results.	A research method is presented, but even researchers in the same field would have difficulty understanding the research method.	A research method is not presented and researchers in the same field would not be able to assume research method.	*Capstone only
7	Results quantity and quality *"Results" refer to those of experiment, calculation, design, prototyping, programming, collection, etc.	Sufficient results in terms of quantity and quality have been obtained in order to achieve the purpose of the research.	The minimum amount of quantitative and qualitative results necessary to achieve the purpose of the research has been obtained.	Quantitative and qualitative results are insufficient to achieve the purpose of the research.	Results that are needed to achieve the purpose of the research have not been obtained.	
8	Evaluation of experimental data	Analysis in line with the research purpose and method has been conducted, and in addition to evaluation by statistical analysis, etc., evaluation is also done in an integrated manner in multiple ways.	Analysis in line with the research purpose and method has been conducted, and evaluation by statistical analysis, etc. has been made.	Analytical results from statistical analysis, etc. are shown, but a more suitable evaluation method is conceivable.	Evaluation with results from statistical analysis, etc. has not been made.	
9	Suitability of charts, etc.	Results are presented with innovative charts, etc. that make the research results very easy to understand, and the contents can be readily understood by researchers of different fields.	Results are presented with charts, etc. and research results can be understood.	Results are presented with charts, etc. and results are comprehensible but leave room for improvement.	Results are presented with charts, etc. but the contents are not organized and cannot be understood.	
10	Consideration of results *"Results" means experiment, calculation, design, prototyping, programming, collection, etc.	Based on the experiment results and reference materials obtained, objective and impartial interpretation is performed. Consideration of reproducibility, accuracy of results, exceptional results, etc. are also appropriate. Also, implications of the results have been considered from multiple perspectives.	Based on the experiment results and reference materials obtained, objective and impartial interpretation is performed. Consideration of reproducibility, accuracy of results, exceptional results, etc. are also appropriate.	There are no misunderstanding regarding the interpretation of the experiment results, but there are insufficient aspects in the consideration of reproducibility and accuracy of the results.	Interpretation of results has not been made, or there are misunderstandings with regards to portions of the interpretation of the results.	
11	Significance and development of research results	The research results obtained are discoveries of innovative knowledge or completely new events in the relevant field and it will undoubtedly lead to a more important research, or being put to good use in society can be highly foreseen.	The research results obtained are discoveries of meaningful knowledge and new events in the relevant field and it can be said to a certain degree that they will lead to a more important research or be put to good use in society.	Whether the knowledge obtained is meaningful in the relevant field leaves a certain level of doubt.	It cannot be said that meaningful knowledge in the relevant field was obtained.	
12	Oral presentation and organization of papers	Oral presentation or paper are logically structured, and it is easy for researchers in different fields to understand.	Oral presentation or paper are logically structured.	It is difficult to say that the oral presentation or paper are logically structured and there is room for improvement.	The oral presentation or paper are not logically structured and they are difficult to understand.	*Oral presentation: milestone *Paper: capstone
13	International aspects of research activities	Presentations in English are being made at international conferences, etc. with sufficient communication in Q&A sessions and discussions, and there is active involvement in international collaborative researches.	Presentations in English are being made at international conferences, etc. Or there is active involvement in international collaborative researches.	Presentations in English are being made on campus or within collaborative research groups. Or there is involvement in an international collaborative research.	There are no research presentations being made in English.	*Items with different content in the first and second term