GUIDELINES FOR APPLICANTS (October 2025)
to *The Double-Degree Master's Program*
In the Division of Mathematical and Physical Sciences
at the Graduate School of Natural Science and Technology
Kanazawa University
JAPAN

Based on the agreement with the below universities, a Special Selection for the Double-Degree Master's Program(*) will be performed.

(*)For this application guideline, the Czech Technical University is the Cotutelle Double-degree program.

I. Departmental Division

Applicants will be accepted into the following courses depending on the home university. See Appendix for possible research fields and supervisors.

Home university	Qualified Master's programs at the home university	Allowed courses at Kanazawa University, Division of Mathematical and Physical Sciences	Number of students accepted
Institut Teknologi Bandung, Republic of Indonesia	Master's Program in Computational Science	Computational Science	10
Chulalongkorn University, Thailand	Master's Program of Applied Mathematics and Computational Science or Master's Program of Mathematics	Computational Science, Mathematics	10
Universitas Gadjah Mada, Republic of Indonesia	one of the Master's Programs at the Faculty of Mathematics and Natural Sciences	Computational Science	10
Czech Technical University in Prague, Czech Republic	Master's Program in Mathematical Engineering or Solid State Engineering at the Faculty of Nuclear Sciences and Physical Engineering	Computational Science, Mathematics, Physics	5

Table 1

II. Qualification

Applicants applying to the Double-Degree Master's Program of Kanazawa University must satisfy the following requirements:

(1) Will have completed 16 years of qualified education by September 30, 2025.
AND
(2) Will have enrolled in a qualified Master's Program (see Table 1 above) at the applicant's home university by October 1, 2025 (*).
(*) Applicants already enrolled in the qualified program at Chulalongkorn University are eligible only if they can complete the program almost upon completion of Kanazawa University.

III. Application Procedure

1. Documents

(1) Application form with Photograph

Documents must be <u>written in English</u>. Use the format supplied. A passport style color photograph (3x4 cm, recently taken, full face, and printed with the applicant's name on the back) should be pasted on the specified place of the application form.

(2) **Official Undergraduate Transcripts**

An official <u>English translation</u> of academic transcripts. The transcript must include grades for all courses taken in the undergraduate program and clearly state the grading criteria. If the transcript does not include a grades and points table, an official letter about grades and points or a URL and PDF of the official webpage that lists the table should be submitted.

(3) **Certificate of Graduation**

An official <u>English translation</u> of the graduation certificate or an official letter <u>written in English</u> stating the expectation of graduation. The latter is not needed, if the transcripts include the statement of graduation.

(4) **Certificate of Enrollment**

An official letter <u>written in English</u> from the applicant's home university stating that the applicant will have enrolled in a qualified Master's Program at the applicant's home university by October 1, 2025 and indicating the expected graduation date.

2. Application Period and Location

Application Period: **July 30 – August 5, 2025**
Submission address: ddp-apply@ml.kanazawa-u.ac.jp

Submit the scanned documents by email during the application period.
After Kanazawa University verifies the completeness of the application documents, you will be asked to send the original documents by mail (EMS) to the contact address below. **Photocopies of the original documents will not be accepted.**

Local offices at each home institution

Home university	Local office
Institut Teknologi Bandung, Republic of Indonesia	Liaison office of Kanazawa University at Institut Teknologi Bandung
Chulalongkorn University, Thailand	Liaison office of Kanazawa University at Chulalongkorn University
Universitas Gadjah Mada, Republic of Indonesia	Office of International Affairs, Faculty of Mathematics and Natural Sciences at Universitas Gadjah Mada
Czech Technical University in Prague, Czech Republic	Prof. Michal Beneš (Collaborative Professor of Kanazawa University) Department of Mathematics, Faculty of Nuclear Sciences and Physical Engineering Czech Technical University in Prague Trojanova 13, 120 00 Prague 2, Czech Republic E-mail: Michal.Benes@fjfi.cvut.cz

3. Examination

Selection will follow the agreement between the applicant's home university and Kanazawa University and will be based on the results of an oral examination, the matching between the applicant and his/her prospective supervisor(s), and the academic transcripts. The oral examination may be performed using a telecommunication system. The oral examination will be performed in English. Before the oral examination (or before the application period, if possible), the applicant should contact the prospective academic supervisor(s) through e-mail, Zoom, etc.

Date: **09:00 (UTC+7) –   on August 21, 2025**
Location: Location will be announced by email.

4. Announcement of Results

The results will be announced by email on the following date:
Date: **September 1, 2025**

IV. Notes

(1) Studentship is based upon the agreement between the applicant's home university and Kanazawa University.

(2) Applications will not be accepted if any of the documents are incomplete, incorrect, or not supported by evidence, or if they are not received by the specified deadline. Once submitted, documents cannot be modified and will not be returned.

(3) If any information of the documents is later found to be false, admission can be canceled at any time after enrollment.

(4) Personal information submitted here will only be used for the admission process and the Double-Degree Master's Program.

(5) Applicants are expected to learn and understand the geography, climate, customs and traditions of Japan as well as the rules of Kanazawa University. Also, although the thesis work can be carried out in English, it is recommended to get accustomed to the Japanese language for the essentials of daily life.

(6) Accepted applicants are expected to submit the following as soon as possible after the announcement of results to the contact address below:

- Certificate of Health (use the format supplied)
- A photocopy of a passport (only the page with applicant's name). Birth certificate or certificate of citizenship are also acceptable instead of a photocopy of a passport.

V. Contact

For further information, please contact the office below via e-mail, or airmail:

Admission Affairs Section
Science and Engineering Administration Department
Kanazawa University
Kakuma-machi, Kanazawa 920-1192, Japan

E-mail: s-nyusi@adm.kanazawa-u.ac.jp (please include "[DDP]" in the subject header)

Appendix

Staff and Fields
in the Division of Mathematical and Physical Sciences

Computational Science Course

Chairman: Professor Katsuyoshi OHARA (e-mail: ohara@air.s.kanazawa-u.ac.jp)

Staff of Computational Mathematics

[Basic Computational Mathematics]

Professor Manabu OURA

My research field is algebraic combinatorics. Keywords should be association scheme, coding theory, invariant theory, modular form.

Professor Katsuyoshi OHARA

We study and develop computer algebra systems related to special functions. Our research contains theory of Groebner bases for non-commutative rings, hypergeometric functions with multivariables, systems of holonomic differential equations and symbolic computations. We also use numerical computations for ordinary differential equations.

Associate Professor Kenichi KAWAGOE

Topology of knots, links and surfaces, representations of the braid groups and the quantum groups, and numerical calculations of quantum invariants.

Associate Professor Atsuhira NAGANO

My research area is special functions and its applications to number theory. Especially, I am working on period mappings, K3 surfaces, Abelian varieties, hypergeometric functions and automorphic functions.

[Applied Computational Mathematics]

Professor Hirofumi NOTSU

My research interests are in the area of numerical analysis of partial differential equations arising especially in fluid dynamics. I am working on development and analysis of finite element schemes and their application to practical problems, which are important in scientific computing.

Associate Professor Koya SAKAKIBARA

My main research interest is the mathematical and numerical analysis of moving boundary problems describing dynamic interfacial phenomena. Recently, I am also interested in the numerical analysis of optimal transport.

[Mathematical Modeling and Analysis]

Professor Masato KIMURA

Our research fields are numerical simulation and mathematical analysis of partial differential equations related to mathematical modeling of several phenomena, such as moving boundary problems, pattern dynamics, elasticity and fracture mechanics, particle simulation of fluid.

Associate Professor Norbert POZAR

I specialize in the analysis of nonlinear partial differential equations (PDEs) modelling phase transitions, crystal growth, population dynamics, fluid interfaces, etc., and the development of numerical methods for such PDEs. I am also interested in applying PDE and machine learning methods to image processing.

Associate Professor Patrick van MEURS

I study the modelling, numerics and analysis of particle systems such as atoms, molecules, cells, sand, schools of fish, flocks of birds and crowds of people. The goal of my research is to discover the group behaviour of such particle systems.

Staff of Computational Experimentation

[Theoretical and Computational Nanoscience]

Professor Tatsuki ODA, Assistant Professor Masao OBATA

> Computational research in solid state physics (bulk properties, surface properties, and nanostructure properties), development of first-principles molecular dynamics, and basic research for spintronics applications in computational science (Rashba effect, electric field control of magnetic anisotropy, etc.).

[Computational Solid State Physics]

Professor Fumiyuki ISHII, Assistant Professor Naoya YAMAGUCHI

> New materials are designed by using parallel supercomputers. We study electronic structures of semiconductors, 2D nanomaterials, energy materials, topological materials and magnetic materials. We also study interstellar molecules and clusters.

Professor Masahide SATO, Associate Professor Hiroyasu KATSUNO

> We work on the theory and simulation of crystal growth.

[Computational Biophysics]

Professor Hidemi NAGAO, Associate Professor Kazutomo KAWAGUCHI

> We study structure and dynamics of the biological system (protein, lipid bilayer) by using molecular dynamics simulations. We also develop a coarse-grained model of soft matter (polymer, membrane) for multi-scale simulation.

[Condensed Matter Theory and Chemical Physics]

Professor Shinichi MIURA

> Microscopic properties of condensed matter systems ranging from superfluids to hydrated proteins are studied with extensive use of statistical mechanics, quantum mechanics and advanced molecular simulation techniques.

Mathematics Course

Chairman: Professor Hajime NAGOYA (e-mail: nagoya@se.kanazawa-u.ac.jp)

Staff of Mathematics

[Algebra]

Professor WAKATSUKI, Satoshi

> My research area is number theory. I study automorphic forms, automorphic representations, trace formulas, and Shintani zeta functions.

Associate Professor SUGIYAMA, Shingo

> My research area is number theory and related topics. I mainly study automorphic forms and L-functions.

Assistant Professor KANNAKA, Kazuki

> My research interests lie in Lie group, discrete group, Clifford-Klein form.

[Geometry]

Professor MIYACHI, Hideki

> My research fields are in Complex analysis, Complex geometry and their applications (in particular, related topics with Low dimensional topology). Especially, I am working in the theory of conformal mappings and quasiconformal mappings, Hyperbolic geometry, and Teichmüller theory (Deformation theory of Riemann surfaces) and the pluripotential theory.

Professor HASEGAWA, Kazuyuki

> My research area is differential geometry. In particular, I am interested in quaternionic geometry, twistor theory and submanifold geometry.

Associate Professor KAWAKAMI, Yu

> My research interests lie in the areas of Geometric analysis, in particular, global property of immersed surfaces in space forms, for example, minimal surfaces and surfaces with constant mean curvature.

Assistant Professor MARUYAMA, Shuhei

> My research interests lie in topology and geometric group theory, focusing particularly on their

homological and group theoretical aspects such as characteristic classes of fiber bundles, group actions, and quasimorphisms.

[Analysis]
Professor OHTSUKA, Hiroshi

My research fields are variational problems, functional analysis, and partial differential equations relating to mathematical physics.

Professor NAGOYA, Hajime

My research area is special functions and integrable systems. Especially, I study the Painleve equations, isomonodromy deformations, and their quantization by using or developing representation theory of infinite dimensional algebras.

Associate Professor KAMIMOTO, Shingo

My research area is differential equations in the complex domain, asymptotic analysis, resurgence theory, and exact WKB analysis.

Physics Course

Chairman: Professor Shinji TAKEDA (e-mail: takeda@hep.s.kanazawa-u.ac.jp)

Staff of Physics

See https://www.nst.kanazawa-u.ac.jp/labp/WebE_MP.html for possible research fields and supervisors.

Please attach this checklist on top of your application documents

CHECKLIST
for Double-Degree Program Application Documents
KANAZAWA UNIVERSITY

Application Period: **July 30 – August 5, 2025**

Name in English:_____

Please mark ✔ in the following boxes of the items you enclosed.

All documents must be written in English. Photocopies will not be accepted.

☐ **Application Form (*)** ☐ **with photograph pasted on the specified place (#)**

☐ **Official Undergraduate Transcripts** ☐ **in English**

☐ **Documents about grades and points** (☐ **included in the above Transcripts**) ☐ **in English**

☐ **Certificate of Graduation** (☐ **included in the above Transcripts**) ☐ **in English**

☐ **Certificate of Enrollment** ☐ **in English**

For items marked with the (*) symbol, use the designated forms. For forms and certificates without the (*) symbol, prepare them by yourself.
  (#) A passport style color photograph (3x4 cm, recently taken, full face, and printed with your name on the back) should be pasted on the specified place of the application form.

MISSING DOCUMENTS: Are there any missing documents?   ☐ Yes   ☐ No

If yes, please list the item(s) and your reason for not including the missing document(s).

Missing document(s) and explanation:_____

_____

Expected date of sending the above documents to Kanazawa University: (yy/mm/dd)_____

10 月期入学

APPLICATION FOR ADMISSION (October 2025)
TO THE GRADUATE SCHOOL
OF NATURAL SCIENCE AND TECHNOLOGY
(Master's degree)
KANAZAWA UNIVERSITY

Photograph:3x4cm, recently taken, full face, and printed with your name on the back.

2025 年度 10 月期

金沢大学大学院自然科学研究科

（博士前期課程）入学願書

受験番号 (Do not fill in.)	

Application Category (受験区分):

Special Selection (Double-Degree Master's Program(*)) (特別選抜(二重学位制度))

(*)The Czech Technical University is the Cotutelle Double-degree program.

Division to which you are applying (志望専攻): **Division of Mathematical and Physical Sciences (数物科学専攻)**

Intended Field of Study at Kanazawa University (金沢大学での希望研究分野):

_____

Name of Prospective Academic Supervisor at Kanazawa University (金沢大学での指導教員名):

_____

Prospective Study Period in Double-Degree Master's Program (DDP 在学期間):

From (yy/mm)：_____ To (yy/mm)：_____

Prospective Period of Stay at Kanazawa University (金沢大学での滞在期間):

From (yy/mm)：_____ To (yy/mm)：_____

Home Institution (所属大学院):

_____

Expected Graduation Date at Your Home Institution (所属大学院の修了予定日):

(yy/mm/dd) _____

Name in English (氏名): (Indicate your full legal name as it appears in your passport.)

□Male　（男）

□Female (女)

_____

Name in Katakana (if possible) (カタカナ): _____

Date of Birth (生年月日)：(yy/mm/dd) _____

Present Address (現住所):

_____

_____

Phone: _____ E-mail: _____

Country of Present Citizenship (国籍): _____

Educational Background (学歴): (List all schools attended in chronological order.)

Name of institution (学校名、小学校から) (Elementary, Secondary, and Post-Secondary)	Location (所在国) (Country)	Period (期間) (yy/mm — yy/mm)	Years Attended (年数)
(1) _____	_____	_____	_____ years
(2) _____	_____	_____	_____ years
(3) _____	_____	_____	_____ years
(4) _____	_____	_____	_____ years
(5) _____	_____	_____	_____ years
(6) _____	_____	_____	_____ years
(7) _____	_____	_____	_____ years
		Total years of education	_____ years

Highest diploma/degree awarded (学位): _____

Japanese Language Study(*) (日本語学習歴): ☐ None

Period of Study (yy/mm/dd)	Name of Institution	Textbook Names
___/___/___ ~ ___/___/___	_____	_____
___/___/___ ~ ___/___/___	_____	_____
___/___/___ ~ ___/___/___	_____	_____
___/___/___ ~ ___/___/___	_____	_____

Japanese Proficiency (*) (日本語能力): (Please give your own assessment of your Japanese proficiency.)

Speaking: ☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ None

Listening: ☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ None

Reading: ☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ None

Writing: ☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ None

English Proficiency (*) (英語能力): (for non-native English speaking applicants only.)

Speaking: ☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ None

Listening: ☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ None

Reading: □ Excellent □ Good □ Fair □ Poor □ None

Writing: □ Excellent □ Good □ Fair □ Poor □ None

(*) Contents entered into this item will not impact selection. (記入された事柄は、選抜には影響しません。)

Work Experience (職歴): □ None

Name of Company (会社名)	Location (所在地) (Country)	Period of Employment (期間) (yy/mm/dd)
(1) _____	_____	__ / __ / __ ~ __ / __ / __
(2) _____	_____	__ / __ / __ ~ __ / __ / __
(3) _____	_____	__ / __ / __ ~ __ / __ / __

Emergency Contact Information (family address) (緊急時連絡先):

(氏名)	(続柄)	(職業)	(所在国)
Name	Relationship	Occupation	Country of Residence
_____	_____	_____	_____

Address (住所): □ same as Present Address (現住所と同じ)

_____

_____

Phone: _____ E-mail: _____

I certify that all the information provided on this form and in the accompanying documents is complete and accurate to the best of my knowledge, and, if admitted, I agree to comply with the rules and regulations of Kanazawa University.

(願書及び添付書類に間違いはありません。合格後は金沢大学の規則等を遵守します。)

Date (yy/mm/dd):   Signature:

※ ☐

2025 Kanazawa University Graduate School

Certificate of Health

Graduate Course: <u>Natural Science and Technology</u>

Major: <u>Division of Mathematical and Physical Sciences</u>

Name (first, middle, last) _____

Sex (male・female)

Date of Birth (yy/mm/dd): _____/_____/_____

Height: _____ cm   Weight: _____ kg

Eye sight: right _____   left _____

Hearing ability: right (normal・abnormal)   left (normal・abnormal)

Chest X-ray: Date (yy/mm/dd): _____/_____/_____

Findings: _____

Comment: _____

Past history and Present illness:

_____

Total comments and suggestions by physician(s)

I (We) certify that these findings are accurate based on examinations.

Date (yy/mm/dd): _____/_____/_____

Hospital or Institution:

_____

Physician (print): _____

_____

(*signature*)