平成31年度
2019

大学院医学系研究科生命医科学専攻
（修士課程）

Course of Biomedical Sciences in Graduate School of Medicine
（Master’s Program）

学生募集要項
Admission Guidelines

群馬大学
Gunma University
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Admission Guidelines
Admission Policy of Gunma University

We seek applicants who have academic skills and capabilities required by the graduate schools or institutes according to their programs or specialties. Applicants should be motivated to contribute to the development of society through research and practice.

Admission Policy for Course of Biomedical Sciences in Graduate School of Medicine, Gunma University (Master’s Program)

<Aims in Human Resources Development>
Our program aims to cultivate scientists who will pursue medical science, medical ethics, and medical skills. We hope our graduates will integrate these pursuits and contribute to the progress of medical research and education, and become leaders in health care and medical science.

<Attributes of Desired Candidate>
We will accept students who wish to gain knowledge and skills in biomedical sciences through our program, and become highly-skilled professionals or researchers. Specifically, we will accept those who:
1. strive to gain the ability to perform research independently based on high ethical values and profound academic knowledge.
2. strive to contribute to the society in medical science, health care and welfare filed as highly-skilled professionals by making use of the knowledge and skills they acquired.
3. strive to further develop the knowledge and skills they acquire, and continue to the PhD program to become researchers and/or educators in Biomedical Sciences field.

<Screening Process>
In order to enroll candidates consistent with our admission policy, we will comprehensively evaluate the results of the entrance examination (written test and interview) and undergraduate academic transcripts. We will take the variety in academic backgrounds of applicants into consideration, and allow applicants to select questions from either the biomedical field or the medical physics field for the written examination. We offer October admission in addition to the traditional April admission to increase educational opportunity.
1 **Number of Students to be Admitted**

<table>
<thead>
<tr>
<th>Basic Medicine</th>
<th>Clinical Medicine</th>
<th>Cooperative Department and Joint Department</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anatomy</strong></td>
<td><strong>Radiation Oncology</strong></td>
<td><strong>(University Hospital)</strong></td>
</tr>
<tr>
<td>Anatomy and Cell Biology</td>
<td>(Internal Medicine)</td>
<td><strong>Clinical Trials and</strong></td>
</tr>
<tr>
<td>Molecular and Cellular Neurobiology</td>
<td>Cardiovascular Medicine</td>
<td>Regulatory Science</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>Division of Pulmonary Medicine</td>
<td><strong>Medical Informatics</strong></td>
</tr>
<tr>
<td>Integrative Physiology</td>
<td>Gastroenterology and Hepatology</td>
<td></td>
</tr>
<tr>
<td>Neurophysiology and Neural Repair</td>
<td>Endocrinology and Metabolism</td>
<td></td>
</tr>
<tr>
<td>Neurobiology and Behavior</td>
<td>Nephrology and Rheumatology</td>
<td></td>
</tr>
<tr>
<td>Genetic and Behavioral Neuroscience</td>
<td>Hematology</td>
<td></td>
</tr>
<tr>
<td>Molecular Pharmacology and Oncology</td>
<td>Neurology</td>
<td></td>
</tr>
<tr>
<td>Bacteriology</td>
<td>(General Surgical Science)</td>
<td></td>
</tr>
<tr>
<td>Infectious Diseases and Host Defense</td>
<td>Cardiovascular Surgery</td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td>General Thoracic Surgery</td>
<td></td>
</tr>
<tr>
<td>Legal Medicine</td>
<td>Gastroenterological Surgery</td>
<td></td>
</tr>
<tr>
<td>Medical Philosophy and Ethics</td>
<td>Breast and Endocrine Surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hepatobiliary and Pancreatic Surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pediatric Surgery</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special Course</th>
<th></th>
<th>The number of students to be admitted is 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Physics Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Training Program for Experts in Medical Physics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program for Cultivating Global Leaders in Heavy Ion Therapeutics and Engineering for Doctoral Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation Biomedical Science Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicine and Engineering Collaborative Course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1. Inquiries about admission should be made directly to supervisors in desired Field of Study (from page 46 on) prior to the actual application process. Major Department can be changed at the end of the 1st semester of the 1st year.

2 **Qualifications for Application**

A person who can apply shall be a person who falls under any of the following provisions.

1. A person who has graduated or is expected to graduate from a university by March 2019.
2. A person who has been conferred or is expected to be conferred by March 2019 a bachelor’s degree under the provisions of Article No. 104-4 of the School Education Act (Act No. 26 of 1947).
A person who has completed or is expected to complete a 16-year course of school education in a foreign country by March 2019.

A person who has completed or is expected to complete a 16-year course of foreign school education by taking class subjects in Japan through correspondence courses run by the foreign country concerned by March 2019.

A person who has completed or is expected to complete a foreign country’s university course at an educational institution in Japan (limited to the person who has completed a 16-year course of the said foreign school education) which is designated as having a foreign university’s curriculum in the said foreign country’s education system and separately designated by the Minister of Education, Culture, Sports, Science and Technology by March 2019.

A person who has completed three or more years of study at a foreign university, or foreign educational establishment (including a person who, while residing in Japan, has completed the program of education provided by a foreign university or foreign educational establishment through correspondence or distance education courses) and who received or is expected to be conferred by March 2019 a degree certificate that is recognized by the Japanese Ministry of Education, Culture, Sports, Science and Technology.

A person who has completed or is expected to complete a specialized course separately designated by the Minister of Education, Culture, Sports, Science and Technology at a vocational school on or after the date specified by the Minister of Education, Culture, Sports, Science and Technology (limited to the vocational school with the school term of four years or more meeting the other standards specified by the Minister of Education, Culture, Sports, Science and Technology).

A person designated by the Minister of Education, Culture, Sports, Science and Technology (Notification No.5 of the Ministry of Education, 1953).

A person who entered a graduate school other than our Graduate School based on the provisions of Article 102-2 of the School Education Act (Act No. 26 of 1947) and who has been recognized by our Graduate School as having academic abilities appropriate for receiving graduate school education.

A person who has been recognized by our Graduate School as having academic abilities equivalent or superior to a person who has graduated a university based on the results of individual examination of the applicant’s qualifications, and who will be 22 years of age by March 31, 2019.

A person who has been enrolled at a university for 3 years or more by March 2019 (including an equivalent person specified by the Minister of Education, Culture, Sports and Technology), and who has been recognized by Gunma University as having acquired the required units with excellent results.

3 Screening etc. for “Qualifications for Application” (Only if applicable)

A person who intends to apply under the provisions of Qualifications for Application (9) or (10) must undergo the screening of requirements for admission of our Graduate School before applying under the following conditions, and the only person who is proved that he/she has Qualifications for Application can apply.

The result of the qualification screening will be notified to each applicant by August 14 (Tue.), 2018.

(a) Application period
   August 1 (Wed.), 2018

(b) Application documents
   In the case of the screening concerning Qualifications for Application (9):
   I Application for the screening of admission requirements (The form attached to our admission guidelines must be used. [Form-10])
   II Academic transcript (faculty results and the document showing the curriculum of the faculty (e.g. syllabus))
   III Certificate of student status (issued by the president of the university (graduate school) you are in and with the date of your entrance). If you completed or quit the graduate school, submit the document with the date of your entrance (e.g. the transcript from the graduate school).
IV Published academic papers etc. on research achievements, if any.

2 In the case of the screening concerning Qualifications for Application (10):
   I Application for the screening of admission requirements (The form attached to our admission guidelines must be used. [Form-10])
   II Certificate of Research Activities (The form attached to our admission guidelines must be used. [Form-11])
   III Published academic papers etc. on research achievements or other remarkable achievements, if any.
IV Graduation Certificate or Completion Certificate issued by the final educational institution (including a junior college, an advanced vocational school or a vocational school, etc.) from which the applicant graduated.
V Academic transcript issued by the final educational institution (including a junior college, an advanced vocational school or a vocational school, etc.) from which the applicant graduated.

(c) Application documents should be sent to:
   Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University, 3-39-22 Showa-machi, Maebashi City, Gunma 371-8511, JAPAN
   TEL. +81-27-220-7797

2 A person who intends to apply under the provisions of Qualifications for Application (11) must inquire at the office described in (1)-(c) before applying.

4 Acceptance of Application
(1) Acceptance Period of Application
   August 15 (Wed.) to August 21 (Tue.), 2018 (without fail)

(2) Submission Procedures of Application documents
   Application documents must be submitted by delivering them in person or by mail within the application period.
   1. Application documents submitted in person will be accepted at Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University described in (3) from 9:00 a.m. to 4:00 p.m. except on Saturday, Sunday and public holiday.
   2. When mailing the documents, be sure to use registered mail and write “Application form for Graduate School of Medicine enclosed” in red on the front of the envelope and send it to Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University described in (3).

Notes:
1. Application documents will not be accepted after the designated application period. The documents should be sent early taking mailing conditions / mailing period into consideration. When special circumstances need to be taken into consideration, please contact “Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University described in (3) by August 15 (Wed.), 2018 at 4:00 p.m.”
2. If the application documents are sent by ordinary mail, Gunma University will not be responsible for it no matter what happens to the documents.

(3) Address and Reference for the submission of Application
   Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University, 3-39-22 Showa-machi, Maebashi City, Gunma 371-8511, JAPAN
   TEL. +81-27-220-7797
(4) Application Documents, etc. (The form is also available through the website of the Graduate School of Medicine and the Faculty of Medicine, Gunma University. (http://www.med.gunma-u.ac.jp/))

<table>
<thead>
<tr>
<th>Documents</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Application Form and Curriculum Vitae [Form-1]</td>
<td>Fill out the form attached to our admission guidelines or obtained from the homepage. Only the person who has graduated or will graduate from a school in a foreign country must fill in his/her curriculum vitae.</td>
</tr>
<tr>
<td>2 Statement of Purpose [Form-3]</td>
<td>A statement written by the applicant describing reasons for applying. (The number of characters is not limited.)</td>
</tr>
<tr>
<td>3 Entrance Examination Fee</td>
<td>¥30,000 (Examination Fee: JPY 30,000) Please select one from the following four payment methods.</td>
</tr>
</tbody>
</table>

1. Payment at a bank in Japan (the payment cannot be made at post office).
   - (1) The examination fee transfer form provided must be used and the payment should be made at a teller’s window of your nearest bank. Bank transfer fees are chargeable on the person who pays the fees [Form 4].
   - (2) Confirm that the “Certificate of Transfer Receipt” is sealed by the bank (financial institution) and paste it on the prescribed place in the “Sheet for Certificate of Transfer Receipt” [Form 5].
   - (3) The transfer payment receipt should be kept with good care as your own duplicate.
   - (4) Transfer payment period: August 6 (Mon.) to 300 p.m. (Japanese time) of August 21 (Tue.) 2018.
   - (5) We do not accept the “Certificate of Transfer Receipt” without a seal by financial institution, one with the amended amount of money, or one written with a pencil. Payment by using ATM (Automated Teller Machine), cell phone or personal computer should not be made.

2. Payment at a convenience store (make sure that you have a personal computer or cell phone with you).
   - (1) Refer to the page 42 when you pay at a convenience store. Payment commissions are chargeable on the person who pays the fees.
   - (2) After payment, receive the “Application Fee Statement”, detach the “Certificate of Payment” (receipt) portion from it, and paste it on the prescribed place in the “Sheet for Certificate of Transfer Receipt” [Form 5].
   - (3) Payment period: August 6 (Mon.) to 300 p.m. (Japanese time) of August 21 (Tue.), 2018. When you make payment via the web site, you have to pay 30 minutes before the end of payment period.

3. Payment by credit card (make sure that you have a personal computer or cell phone connected to a printer with A4 paper with you).
   - (1) Refer to the page 42 when you pay by credit card. Payment commissions are chargeable on the person who pays the fees.
   - (2) After payment, print the “Application Fee Statement”, detach the “Certificate of Payment” (receipt) portion from it, and paste it on the prescribed place in the “Sheet for Certificate of Transfer Receipt” [Form 5]
   - (3) Payment period: August 6 (Mon.) to 300 p.m. (Japanese time) of August 21 (Tue.) 2018.

4. Remittance from abroad
   - (1) Please make a remittance on a yen basis from a bank teller’s window to the Following bank account (a bank transfer fee and an overseas remittance fee will be borne by an applicant in person).
   - (2) Paste the receipt (the copy of it is also valid) you receive from a bank on the prescribed place in the “Sheet for Certificate of Transfer Receipt [Form 5]”. In addition, if an excess or a deficiency arises in amount of remittance, please note that it cannot be dealt with.
   - (3) When you make a remittance, please contact a person in charge of Gunma University as below. At which time, be sure to specify your name, the name of the nation from which you remit, and your planning to apply for our Master’s Program.
     (E-mail: kk-mokumitei@jmu.gunma-u.ac.jp)
     ○Bank Account
       Bank: The Towa Bank, LTD (Bank Code: 0516)
       Branch: Maebashi Kita Branch (Branch Code: 012)
       Address: 1-5-2 Kokuryyo-cho, Maebashi City, Gunma, 371-0033, JAPAN
       TEL: +81-27-231-6789
       Swift Code: TOWAJPJT
       Account number: 3169574 (Savings Account)
       Name of account: GUNMA DAIGAKU
       Address of Acct. holder: 4-2 Aramaki-machi, Maebashi City, Gunma, 371-8510, JAPAN
       TEL: +81-27-230-7062
   - (4) Transfer Payment period: August 6 (Mon.) to 300 p.m. (Japanese time) of August 21 (Tue.) 2018.
<table>
<thead>
<tr>
<th>Documents</th>
<th>Outline</th>
</tr>
</thead>
</table>
| 3 Entrance Examination Fee | (5) Payment by using ATM (Automated Teller Machine), cell phone or personal computer should not be made.  

[Concerning the refund of the entrance examination fee (Common notes to both remittances)]  
*In principle, the entrance examination fee will not be refunded, but except the following cases according to the designated procedures.  
① When an application is not made after paying the entrance examination fee.  
② When the entrance examination fee is paid twice, or more than the amount of fixed money accidentally.  
③ When application documents are not accepted after submission.  
Please send the declaration form in which the following 1～4 are described to admission section in Showa campus of Gunma University.  
We will refund the entrance examination fee later.  

<table>
<thead>
<tr>
<th>Declaration of claiming back the Entrance Examination Fee (Master’s Program)</th>
</tr>
</thead>
</table>
| 1. The reason why you want to claim back the fee.  
2. Name  
3. Postal Code, Present Address  
4. Phone Number or E-mail Address |

Address for sending the declaration form:  
Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University, 3-39-22 Showa-machi, Maebashi City, Gunma 371-8511, JAPAN  
*If the applicant is receiving the Japanese Government (MEXT) Scholarship at the time of application, the examination fee payment is not required. Please submit the document certifying the recipient of the scholarship.  
*When performing the procedures of the refund of the entrance examination fee, the transfer payment receipt will be needed (When performing the procedures abroad, the original transfer payment receipt you receive from a bank will be needed). Any processing fees will be deducted from the amount to be refunded.  
**For inquiries regarding the refund of the entrance examination fees, please contact:**  
Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University  
TEL. +81-27-229-7797  

[About the exemption of the entrance examination fee]  
*Applicants who suffered from the Great East Japan Earthquake and disaster from storm and flood will be exempted from the total amount of examination fee as special measures. (Eligible applicants for exemption from entrance examination fee)  
1 Special measures for the Great East Japan Earthquake  
(1) The applicants who suffered in the areas where the Disaster Relief Act in the Great East Japan Earthquake has been applied, and who fall under any of the following categories.  
① Applicants whose houses, which are owned by payers of school expenses, were completely destroyed, largely half-destroyed, partially destroyed, or washed away.  
② Applicants whose payers of school expenses are dead or missing.  
(2) Applicants whose payers of school expenses are recognized that their domiciles were designated as warning areas, deliberate evacuation areas, areas where it is expected that the residents have difficulties in returning for a long time, areas in which the residents are not permitted to live, and areas to which evacuation orders are ready to be lifted due to the Fukushima Daiichi nuclear disaster.  
2 Special measures for the disaster from storm and flood  
(1) The applicants who suffered in the areas where the Disaster Relief Act in the disaster from storm and flood within one year before the application period has been applied, and who fall under any of the following categories.  
① Applicants whose houses, which are owned by payers of school expenses, were completely destroyed, largely half-destroyed, partially destroyed, or washed away.  
② Applicants whose payers of school expenses are dead or missing.  
(2) For further information, please contact the following.  
Inquiries should be directed to:  
Admissions Office, Educational Division, Gunma University  
TEL. +81-27-229-7149  

4 Sheet for Certificate of Transfer Receipt or Certificate of Payment [Form-5] | Paste the ‘Certificate of Transfer Receipt’ or ‘Certificate of Payment’ on the space designated on Form-5.  

5 Photograph Card [Form-6]  
Examination admission Card [Form-7] | Write your name on the back of the photograph (waist-up, full-face and uncovered head [L4 cm x W3 cm]) taken within three months prior to the application and paste it on the prescribed column in the Photograph Card.  
Photograph Card and Examination admission Card must be submitted while still attached (do not cut them apart).
<table>
<thead>
<tr>
<th>Documents</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Certificate of Graduation (or expected graduation)</td>
<td>The certificate issued by the presidents of the university or the graduate school from which you graduated. However, those who have passed the screening of admission requirements by our Graduate School under Qualifications for Application (10) and who have graduated from the Faculty of Medicine of Gunna University are not required to submit it.</td>
</tr>
<tr>
<td>7 Certificate of Bachelor’s Degree</td>
<td>The certificate proved by the institution which conferred the bachelor’s degree. Attach the academic record supporting conferment of the said degree. (Note) This item 7 applies only to a person who falls under “Qualifications for Application (2)”.</td>
</tr>
<tr>
<td>8 Certificate of Bachelor’s Degree</td>
<td>Attach the diploma or other certificate of Bachelor’s Degree which is conferred from the university of educational establishment. This item 8 applies to a person who falls under “Qualifications for Application (6)”</td>
</tr>
<tr>
<td>9 Academic transcript</td>
<td>The transcript issued by the presidents of the university and the graduate school from which you graduated and sealed. However, those who have passed the screening of admission requirements by our Graduate School under Qualifications for Application (9) or (10), and who have graduated from the Faculty of Medicine of Gunna University are not required to submit it.</td>
</tr>
<tr>
<td>10 Total credits of each grades of the academic transcript [Form-2]</td>
<td>The certificate issued by the presidents of the university (Bachelor’s Degree) from which you graduated and sealed tightly. Fill out the total credits of each grades of the academic transcript form attached to the Admission Guidelines or obtained from the website.</td>
</tr>
<tr>
<td>11 Name and Address Card [Form-9]</td>
<td>Fill out the form attached to the Admission Guidelines or obtained from the website.</td>
</tr>
<tr>
<td>12 Self-addressed envelope (size No.3)</td>
<td>The self-addressed envelope with the applicant’s name, address, and postal code written and a ¥302 (JPY 362) stamp pasted on it must be attached. In addition, an applicant from overseas is not required to submit it.</td>
</tr>
<tr>
<td>13 Written approval for taking examination [Form-8]</td>
<td>A working person must submit the written approval for taking examination (the form attached to the Admission Guidelines is designated) issued by supervisor or appointee of workplace.</td>
</tr>
<tr>
<td>14 Certificate confirming “Qualifications for Application” (A copy of it is acceptable)</td>
<td>A person who has undergone the screening of admission requirements conducted by our Graduate School about whether he/she falls under Qualifications for Application (9) or (10) before applying and has also been proved to have qualifications for application must submit it.</td>
</tr>
<tr>
<td>15 Score report in TOEFL, TOEIC Listening &amp; Reading Test (Open Test) or IELTS (Academic Module)</td>
<td>The person in hope of a foreign language (English) examination by TOEFL, TOEIC Listening &amp; Reading Test (Open Test) or IELTS (Academic Module), please submit either one score among TOEFL-PBT, TOEFL-iBT, TOEFL-ITP, TOEIC Listening &amp; Reading Test (Open Test), and IELTS (Academic Module). The score report is limited to the original (which has been issued in less than 2 years). The copy of it is unacceptable. The original will be returned with examination card.</td>
</tr>
</tbody>
</table>

Notes: 1. Alteration to the contents of the application documents will not be accepted after the acceptance of the application documents.

2. Whatever the reason may be, the application documents accepted will not be returned.

3. When it turns out that matters described in the application documents do not agree with the facts, the success in the examination and the admission may be revoked.

4. An applicant may be requested to submit additional documents other than those listed in the above if our University deems it necessary to confirm the qualifications for application.

5. When your former name is used in each certificate, an official document (family register, etc.) to prove the relation between your current name and former name must be attached.

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(5) Sending of Examination admission Card etc.

Examination admission Card etc. will be sent to the applicant after paperwork following the acceptance of Application documents. If the Examination admission Card etc. should not be sent by September 4 (Tue.), 2018, apply to Admissions Section, Educational Affairs Office, Administration Division, Showa Campus (TEL. +81-27-220-7797, E-mail:kk-mgakumu5@jimu.gunma-u.ac.jp).
5 Preliminary Consultation for Applicants with Disabilities etc.
Gunma University provides academic support to students with disabilities etc.
When you have a disability and need consideration in examination and your study, prior to an application, please consult with our university beforehand.

(1) When to consult
As due date of consultation is August 1 (Wed.), 2018, please consult as soon as possible.
Please note that we may not be able to accommodate the consultation after the deadline.

(2) How to consult
Please submit a consultation document (its format is optional) by attaching required documents including a doctor’s certificate.
When necessary, the interview with the persons concerned with the school from which an applicant graduated, or his/her family etc. who can speak for the applicant or his/her position is performed in our university.

(3) Consultation document should be sent to:
Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University,
3-39-22 Showa-machi, Maebashi City, Gunma 371-8511, Japan
TEL. +81-27-220-7797

6 Selection Method
Selection will be made by comprehensive evaluation of the scholastic ability tests (including the oral examination) and the academic transcript issued by the president of the university etc. from which you graduated.

(1) About the examination on foreign language (English)
① An applicant who submits the score in TOEFL-PBT (Paper Based Test), TOEFL-iBT (internet Based Test), TOEIC Listening & Reading Test (Open Test) or IELTS (Academic Module) at the time of application can convert the submitted score into the score on the foreign language examination (English) based on the following conversion table for the foreign language examination (English) instead of the written examination. The score in TOEFL-ITP (TOEFL Institutional Testing Program) will also be the subject of evaluation in the same way as the score in TOEFL-PBT.
Furthermore, even the applicant who submits the score in TOEFL, TOEIC Listening & Reading Test (Open Test) or IELTS (Academic Module) at the time of application can take the foreign language examination (English) if he/she wishes. In that case, the better results will be used for the judgment.
② TOEFL, TOEIC Listening & Reading Test (Open Test) or IELTS (Academic Module) which has been issued in less than 2 years shall be valid. The submitted score report, score card or official score certificate of TOEFL, TOEIC Listening & Reading Test (Open Test) or IELTS shall be the original and a copy of it is unacceptable. The original will be returned with the Examination Card.

(2) Conversion table for TOEFL, TOEIC Listening & Reading Test (Open Test) and IELTS (Academic Module)

<table>
<thead>
<tr>
<th>Conversion of English examination</th>
<th>60</th>
<th>65</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL-PBT</td>
<td>475 or above</td>
<td>487 or above</td>
<td>500 or above</td>
<td>525 or above</td>
<td>550 or above</td>
<td>600 or above</td>
</tr>
<tr>
<td>TOEFL-iBT</td>
<td>52-53 or above</td>
<td>57 or above</td>
<td>61 or above</td>
<td>70-71 or above</td>
<td>79-80 or above</td>
<td>100 or above</td>
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<td>TOEIC Listening &amp; Reading Test (Open Test)</td>
<td>514 or above</td>
<td>549 or above</td>
<td>586 or above</td>
<td>658 or above</td>
<td>730 or above</td>
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<tr>
<th>Conversion of English examination</th>
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<td>IELTS (Academic Module)</td>
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<td>5.5</td>
<td>6</td>
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7 Date and Locations for Examination

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Examination Subject</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 9 (Sun.), 2018</td>
<td>1000–1200</td>
<td>Foreign Language (English)</td>
<td>Graduate School of Medicine, Gunma University etc.</td>
</tr>
<tr>
<td></td>
<td>1300–1500</td>
<td>Desired Major Field (Oral Examination)</td>
<td></td>
</tr>
</tbody>
</table>

8 The Aim of Each Examination Subject

Foreign language (English)... The comprehension of English documents and English composition ability will be examined.

* The use of one dictionary, such as English-Japanese dictionary, English-English dictionary or similar dictionary, is allowed (technical dictionary and electronic dictionary, etc. not allowed).

Desired Major Field Area (Oral examination)... Basic academic ability necessary for engaging in studies in major field and willingness to study will be examined.

* The oral examination will be held by supervisors of major field of your first choice.

Applicant must contact the supervisor of his/her desired major field before deciding his/her desired major field.

9 Exam Instructions

1. The examination admission card must be brought with you to take the entrance examination.
2. Examinees must enter the prescribed examination room by 9:30 a.m. Late arrivals for the examination will be accepted to take the examination within 30 minutes after the start of the examination, but the test time shall not be extended.
3. Examinees must take all tests on the examination subjects assigned, or he/she will be disqualified.
4. When a delay occurs on the public transport on the examination day, please refer to:
   Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University (TEL. +81-27-220-7797)
5. If unexpected incidents (a disaster, an accident, etc.) happen on the day of examination, visit our website (http://www.med.gunma-u.ac.jp/) for your reference. In principle, we will not conduct supplementary examinations.

10 Announcement of Selection Results

Letters of acceptance will be mailed to successful applicants on September 28 (Fri.), 2018. At the same time, successful applicants’ numbers will be posted on the website of “the Graduate School of Medicine and the Faculty of Medicine, Gunma University” after 10:00 a.m. to the date for admission procedures. Notice about the announcement of selection results will not be posted in Gunma University campus.

Additionally, any inquiries about selection results by telephone will not be accepted.
11 Admission Procedures

The successful applicant is required to read the “admissions guide” enclosed with “the letter of acceptance” carefully and must prepare (1) fees and documents for admission procedures, (3) during the period of the admission procedures, and submit them to the (4) place by “mail” or “in person”.

(1) Fees and documents for admission procedures

① Admission fee: ¥282,000 (JPY 282,000)

Notes: (a) Any revisions to admission fee on admission during enrollment shall be applied.
(b) Methods for payment of the admission fee will be informed separately.
(c) Admission fee paid shall not be returned under any circumstances.

② Examination admission Card

③ Any additional documents instructed in the admissions guide.

(2) Fees for after entrance.

Tuition fee: (first-semester) ¥267,900 (JPY 267,900) (Annual tuition fee: ¥535,800 (JPY 535,800))

Notes: (a) Any revisions to tuition fees during enrollment shall be applied.
(b) Methods for payment of the tuition fee will be informed separately.
(c) Tuition fee including the tuition fee second-semester can be paid at the time of paying the tuition fee for first-semester according to the successful applicant’s wishes.
(d) If a person who completes the admission procedures declines the admission by March 31 (Sun.), 2019, the amount equivalent to the tuition fee paid shall be refunded based on his/her request by following the prescribed procedures.

(3) Period of Admission Procedures

The necessary documents must arrive at the university no later than October 19 (Fri.), 2018, except on Saturday, Sunday and public holiday

Note: Whether the procedure is taken “By mail” or “In person”, he/she will be regarded as a person who declines the admission if the admission procedures are not completed by the above deadline.

(4) Fees and documents should be submitted to:

○ By mail: Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University, 3-39-22 Showa-machi, Maebashi City, Gunma 371-8511, JAPAN

○ In person: Educational Affairs Office, Administration Division, Showa Campus of Gunma University
(The third floor of Common Building)

12 Additional successful applicants

When the number of persons who complete the admission procedures by October 19 (Fri.), 2018 does not reach the number of students to be admitted, Gunma University may fill vacancies by accepting additional applicants. Notification of acceptance will be made by telephoning the applicant at the contact details indicated in the application form after 5:00 p.m. on October 19 (Fri.), 2018.

13 Exemption and Postponement of Admission Fee and Tuition Fee

The admission fee or the tuition fee may be exempted in full or by half for admitted students who have difficulty paying due to special circumstances.

Also, the collection of admission fee or tuition fee can be postponed for a certain period for students who have difficulty paying by the specified deadline.

Inquiries should be directed to:

Education and Student Support Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University TEL. +81-27-220-7796
Gunma University has a system of exemption from admission fee or tuition fee for those recognized as having difficulty in paying due to suffering from the Great East Japan Earthquake.

Gunma University has a system of exemption from admission fee or tuition fee for prominent students with excellent entrance results and academic performance based on the recommendation of each graduate school and educational organization.

Inquiries should be directed to:
Student Life Section, Student Support Office, Educational Division, Aramaki Campus of Gunma University
TEL. +81-27-220-7136

14 Scholarship
Student loan and scholarships are available by Japan Student Services Organization (JASSO) for a person who has difficulty in paying the tuition fee, and who has great academic performance and excellent character.

Also, graduate scholarship system of Japan Student Services Organization includes Post-entry Applications (system to apply for scholarship after enrollment) and Prior Applications (system to make a reservation for applying for scholarship before enrollment). Those who wish for Prior Applications can apply before announcement of selection results, but should make an inquiry below by the end of September allowing for recruitment period.

Inquiries should be directed to:
Education and Student Support Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University
TEL. +81-27-220-7792

15 Disclosure of Admission Information
Admission Information will be disclosed in the following way:

(1) Disclosed on the website of the Graduate School of Medicine and the Faculty of Medicine, Gunma University on and after May 1 (Wed.), 2019. (http://www.med.gunma-u.ac.jp/)

The above information contains number of applicants, number of examinees, number of successful applicants, number of newly enrolled students, the number of men and women in the newly enrolled students.

(2) Disclosed by the examinee’s request in written form.

The said examinee’s totaled scores on the entrance examination will be disclosed in written form.

○Period for acceptance of disclosure request
From May 1 (Wed.) to May 31 (Fri.), 2019

Admissions Section, Educational Affairs Office, Administration Division, Showa Campus of Gunma University
TEL. +81-27-220-7797

16 Protection of the Personal Information about the Applicants for Admission etc.
Gunma University will acquire the personal information about the applicants etc. through the application documents submitted and the personal information about the examinees by carrying out the entrance examination, but the personal information described above will be used only for the following operations based on “Act on the Protection of Personal Information Held by National University Corporation Gunma University”.

(1) For the operations (including subordinate operation, such as statistical treatment) concerning the selection of newly enrolled students.

(2) For the operations concerning the student advising, the student support, and the tuition fee collection after enrollment as the data on the newly enrolled student in the case of a person who completes the admission procedures.

In addition, our university may oursource above operations to an external company after concluding the contract concerning the appropriate handling of personal information.
Access to Admission Section

**Address**

Gunma University Course of Medical Sciences in Graduate School of Medicine (Doctoral Program)

3-39-22 Showa-machi, Maebashi City, Gunma 371-8511, Japan

TEL. +81-27-220-7797 (Admissions Section, Educational Affairs Office)

**Traffic Information**

<table>
<thead>
<tr>
<th>Bus Stop (get on)</th>
<th>Distination</th>
<th>Bus Stop (get off)</th>
<th>Amount of time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>JR Ryomo Line Maebashi station, North Exit</td>
<td>Bus Stop 2</td>
<td>Bound for Gunma University Hospital • Bound for Aramaki Campus via Gunma University Hospital (including via Nankitsudanchi)</td>
<td>Gunma University Hospital</td>
<td>about 15min</td>
</tr>
<tr>
<td>JR Jouetsu Line front of Shibukawa Station</td>
<td>Bound for Maebashi station (including Shibukawa City Circular, via Gunma University Aramaki Campus)</td>
<td>Entrance to Hospital</td>
<td>about 13min and 6min by walk</td>
<td>Kan-etsu Transportation</td>
</tr>
</tbody>
</table>

※ There are not any transportations from JR Gunmasouja Station and JR Shinmaebashi Station.
※ Please come to examination center with time to spare by 9:30, after checking the latest traffic information.
Application Forms available at
Admissions Section, Educational Affairs Office (3rd floor)
from August 15 (Wed.) to August 21 (Tue.), 2018
office hours 9:00 a.m. to 4:00 p.m.
(except on Saturday, Sunday and public holiday)
GUNMA UNIVERSITY

How to make a Payment of Examination Fee at Convenience Store or by Credit Card

You can pay the examination fee at a nearby Convenience Store (Lawson, Ministop, FamilyMart, Seven-Eleven, Circle K or Sunkus) by cash, or by a credit card.

1 Online Application

Visit the payment website from your computer or cell phone at:

https://e-shiharai.net/

- You can not correct or cancel anything once your credit card payment has been made. Please check all your information carefully before you confirm the application.
- If you input the wrong information while trying to obtain your application number, please start again from the beginning and make your payment.
  If you fail to pay the fee by the due date which you will be noticed after completing the online application, all the information you had input will be canceled automatically.

2 Convenience Store Payment

The application fee can be paid through an ATM. Be sure to make your payment at the counter.

Tell the counter staff that you want to make an "Internet Payment." Then provide your [学籍番号]

A multifunction copier cannot be used to make payment.

- Make the payment at the register.
- Receive an Application Fee Statement. Detach the Certificate of Payment (receipt) portion.
- Loppi, FamilyMart, or K-station issues a funds transfer receipt. You will need to take this to the cash register within 30 minutes and make the actual payment.
- Receive an Application Fee Statement. Detach the Certificate of Payment (receipt) portion.

3 Application

Paying at Convenience Store

Attach the receipt portion to "The Certificate of Payment" in the designated location.

- Please confirm the information on the documents and complete your payment within the application period.
- If you are paying at a convenience store, please be sure to complete your web application at least 30min before the end of the payment period time.
  In addition, the steps for using information terminals at various convenience stores and payment deadlines for credit card payments are all mentioned in your application guidelines.

Paying by Credit Card

After making your payment, please make sure you have access to a printer with paper. (A4)

Access "申請内容確認（確認）" at e-shiharai.net.

- Please check your card.
- Input Receipt Number. Enter your Birth Date (YYYY/MM/DD), and click "同意する".
  Then all of your application information is displayed.
- Click the button "事務手続きを行います".
  Attach the receipt portion of "申請内容確認（確認）" to the designated location.
  Envelope all with other necessary application documents.

- You can print a receipt from the "Application Results" page on the eShiharai site after making credit card payments only.
- Please contact your credit card company directly if your card is not accepted.
Outline of the in Biomedical Sciences Course (Master’s Program)

1 Purpose of setting up the course and specific educational aims

Recent advances in life sciences and information sciences have opened up abundant prospects for applying the achievements of basic research within bio-related industries and new medical services, including drug discovery and regenerative medicine. At the same time, there is a need to solve many challenges, such as medical ethics and information security that are associated with advanced medical technology, and community healthcare support in our aging society, which are opening up a wide range of potential roles for medical researchers and health professionals. Many doors are being opened to non-medical school graduates and trained researchers, educators, and/or highly skilled workers who can exercise leadership in the life sciences and medical fields. However, there is a looming shortage of researchers/educators able to respond to the needs of society and who can take an active role in Biomedical Sciences, this new interdisciplinary field between life sciences and medicine.

There is also a growing number of non-medicine, non-veterinary, and non-dentistry graduates who are hoping to pursue their interest in life science research or medical fields; however, before these graduates can enter a graduate school of medicine to take a PhD course, they either need to have obtained a Master’s Degree or must have more than two years’ research experience at a university or research institute. Gunma University Graduate School of Medicine has been shifting its focus of interest to new interdisciplinary fields. For example, in 2003, we re-organized our Medical Sciences Course (Doctoral Program) and our research and educational system into a basic plus clinical integrated style, and established a PhD program in health sciences, now being run by the Graduate School of Health Sciences. The implementation of a day/evening course system for both programs allowed us to offer the course to mature students not from only the medical and health science fields, but also from related fields. However, we were still unable to accept graduates from facilities other than medicine, veterinary, or dentistry directly to our medical sciences course.

In response to increasing demand, and to broaden our intake of graduates from other faculties, we have established a Biomedical Science Course (Master’s program) within the Graduate School of Medicine. This program aims to educate non-medical school graduates in the fundamental knowledge and skills needed to engage in the type of independent research that increasingly underpins medical and life sciences, and to foster leadership in medical-related fields on the part of health professional experts.

2 Academic discipline and research targets

Biomedical Sciences is a general term for the life sciences field, which overlaps medicine, life sciences, and other medical interdisciplinary fields. The Biomedical Sciences Course is designed to draw together life sciences and traditional basic medicine/clinical medicine (anatomy, physiology, biochemistry, cell biology, molecular biology, genetics, pharmacology, neuroscience, microbiology, parasitology, pathology, forensic medicine, hygiene, public health, medical ethics, medical informatics, internal medicine, surgical medicine, obstetrics and gynecology, otorhinology, rehabilitation medicine, clinical laboratory medicine, nuclear medicine, oncology, radiology, clinical pharmacology, pediatrics, psychiatry, etc.) as educational and research subjects to promote the elucidation of biological processes from a medical perspective and to establish Biomedical Sciences as a discipline that is aimed at the creation of new medical care: not only diagnosis and treatment, but also the promotion of health and improvement of quality of life.

We extended our research targets to medical physics, a field of growing importance, in academic year 2009, and will continue to promote broader biomedical science research.

3 Curriculum

1) Class subjects are divided into three subdivisions: basic subjects, practical subjects, and subjects suitable for research.

2) Of the basic subjects needed to be taken in the first year, fundamental knowledge of life sciences/medicine and basic techniques of the type required for biomedical science research will be acquired in the required subjects. This will place all students on the same footing. Basic factors within Biomedical Sciences that are needed in
multiple major field will be acquired in the elective subjects. Students who do not decide on a major field on beginning the course will be able to gain an understanding of current problems in medical-related fields, and make their decision based on their specialties, abilities and wishes by the end of the first semester of the 1st year while taking these basic subjects.

3) Of the practical subjects offered, elective subjects can be selected that are appropriate to the student’s research project or career options after earning their Master’s Degree. These subjects will advance the understanding of the applicable and practical knowledge required to pursue Biomedical Science research in research area and/or to further improve expertise.

4) Research subjects designed to promote the acquisition of knowledge needed to propose and implement a research project, and techniques for presentation of research results.

4 Others

Educational courses in Biomedical Sciences promote specialization in the following subjects.

Medical Physics Course

In this course, established in 2009, we train medical physics professionals who will be able to expand the development of highly-advanced medical technologies such as heavy particle radiotherapy using high-energy carbon ion beams and intensity-modulated radiation therapy using X-rays.

International Training Program for Experts in Medical Physics

This course is designed for prospective leaders in medical physics. The International Training Program for Co-operative Experts in Clinical Oncology, applied by the University of Tsukuba, was selected as a Promotion Plan for the Platform of Human Resource Development for Cancer, launched by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2012. In this course, we use unique teaching methods that employ e-learning strategies.

Program for Cultivating Global Leaders in Heavy Ion Therapeutics and Engineering for Doctoral Courses

The Program for Cultivating Global Leaders in Heavy Ion Therapeutics and Engineering, proposed by Gunma University and selected as a Leading Program in Doctoral Education, was launched by MEXT in 2011. Accordingly, after enrollment of PhD program at Graduate School of Medicine, graduates of Biomedical Sciences Course may register this program. If application is approved, it is possible to complete the Doctoral Course in three years.

Radiation Biomedical Science Course

It provides basic knowledge of radiation science by studying linkage subjects in cooperation with Gunma Prefectural College of Health Sciences.

Medicine and Engineering Collaborative Course

This course will be open in April 2019 for students who have previously studied natural sciences, engineering, and related fields. The mission of this course is to foster persons who will be able to lead and initiate work combining aspects of medicine and engineering in various sectors of academia, industries, medical institutions, and governmental institutions. Students can engage a wide area of expertise and conduct biomedical research under collaboration with the Graduate Schools of Science and Engineering.
<table>
<thead>
<tr>
<th>Region</th>
<th>Major Field</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Cell Biology</td>
<td>Toshiyuki Matsuoka</td>
<td></td>
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<tr>
<td>Molecular and Cellular Neurobiology</td>
<td>Yasuki Ishizaki</td>
<td></td>
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<tr>
<td>Biochemistry</td>
<td>(Under Selection)</td>
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<tr>
<td>Integrative Physiology</td>
<td>Noriyuki Kobuchi</td>
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<tr>
<td>Neurophysiology and Neural Repair</td>
<td>Hirokazu Hirai</td>
<td></td>
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<tr>
<td>Neurobiology and Behavior</td>
<td>Tomohiro Shira</td>
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</tr>
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<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Anatomy</td>
<td>Tohru Murakami (Associate Professor)</td>
<td>Ext. 7912 <a href="mailto:tohru.murakami@gunma-u.ac.jp">tohru.murakami@gunma-u.ac.jp</a></td>
</tr>
<tr>
<td>Anatomy and Cell Biology</td>
<td>Toshiyuki Matsuzaki</td>
<td>Ext. 7900 <a href="mailto:matoshi@gunma-u.ac.jp">matoshi@gunma-u.ac.jp</a></td>
</tr>
<tr>
<td>Molecular and Cellular Neurobiology</td>
<td>Yasuki Ishizaki</td>
<td>Ext. 7950 <a href="mailto:yasukiishizaki@gunma-u.ac.jp">yasukiishizaki@gunma-u.ac.jp</a></td>
</tr>
<tr>
<td>Basic Medicine</td>
<td>Kazuaki Tatei (Associate Professor)</td>
<td>Ext. 7944 <a href="mailto:tatei@gunma-u.ac.jp">tatei@gunma-u.ac.jp</a></td>
</tr>
<tr>
<td>Biochemistry</td>
<td>Noriyuki Koibuchi</td>
<td>Ext. 7920 <a href="mailto:nkobuchi@gunma-u.ac.jp">nkobuchi@gunma-u.ac.jp</a></td>
</tr>
<tr>
<td>Integrative Physiology</td>
<td>Hirokazu Hirai</td>
<td>Ext. 7930 <a href="mailto:hira@gunma-u.ac.jp">hira@gunma-u.ac.jp</a></td>
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<tr>
<td>Neurobiology and Behavior</td>
<td>Temoaki Shirao</td>
<td>Temoaki Shirao Ext. 8050</td>
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<tr>
<td>Genetic and Behavioral Neuroscience</td>
<td>Yuchio Yanagawa</td>
<td>Yuchio Yanagawa Ext. 8040</td>
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<tr>
<td>Basic Medicine</td>
<td>Masahiko Nishiyama</td>
<td>Masahiko Nishiyama Ext. 7960</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>Haruyoshi Tomita</td>
<td>Haruyoshi Tomita Ext. 7990</td>
</tr>
<tr>
<td>Infectious Diseases and Host Defense</td>
<td>Yasuki Ishizaki (Dean) (Ext.) 7950</td>
<td>Yasuki <a href="mailto:Ishizaki@gunma-u.ac.jp">Ishizaki@gunma-u.ac.jp</a></td>
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</tr>
</tbody>
</table>
| Public Health  |                                       | Hiroshi Koyama Ext. 8010 hkoyma@gunma-u.ac.jp | Public Health is the art and science to delineate the environmental and social determinants of health, and to reduce the harmful factors and to promote the supportive factors for health through the organized community efforts. Our research topics include, the protective effect of trace elements on the development of cancer and metabolic syndrome, analytical studies of trace elements using HPLC-ICP-MS method, depression screening-test for the suicide prevention, and the epidemiology of the relationship between QOL and insurance system and community organization. We also examine health equity and public health ethics.  
[Keywords]  
trace element, selenium, cancer prevention, depression screening, and epidemiology, public health ethics |
| Basic Medicine | Legal Medicine                        | Yoshihiko Kominato Ext. 8030 kominato@gunma-u.ac.jp | Legal medicine is essentially the application of scientific methods and techniques to matters involving the public: that covers a lot of ground. Every science from chemistry to medicine, from biology to statistics, from dentistry to anthropology, can be a forensic science if it has some applications to the law or public matter. Especially, our group has been focusing on personal identification, which is one of the important matters of legal medicine in Japan. We have performed researches on ABO blood group, which is one of the important genetic markers in human identification. Recently, we have succeeded in identifying the erythroid cell-specific enhancer and found the deletion or impairment of the enhancer element in variant blood type Bm, leading to the development of valuable methods for the genetic diagnosis of Bm based on PCR analysis.  
[Keywords]  
legal medicine, personal identification, ABO blood group, enhancer |
| Medical        | Medical Philosophy and Ethics          | Kenji Hattori Ext. 4755 hattorik@gunma-u.ac.jp | Medical practices in the clinical setting as one of existential situations are fraught with troublesome problems in terms of actual human ways of life. Clinical ethics is tackling them by, not applying some general principles or abstract doctrines mechanically to every case, but paying close attention to the individual circumstances of each case. We have been involved in the groundwork for the methodology of clinical ethics from the perspective of hermeneutics and philosophy of literature. Ethical problems in preventive medicine, the method of teaching medical ethics, meta-ethical approaches to medical ethics, and critically examining the fundamental concepts such as health and disease, are also of our core concern.  
[Key words]  
clinical ethics, medical ethics, philosophy of medicine, medical ethics education |
| Clinical       | Cardiovascular Medicine                | Masahiko Kurabayashi Ext. 8140 mkuraba@gunma-u.ac.jp | According to the change of life style and an increase in aged population, the prevalence of hypertension, diabetes, and metabolic syndrome is rapidly increasing. These changes lead to the increase in cardiovascular disease such as myocardial infarction, stroke and heart failure. This department has been interested in the pathogenesis of atherosclerosis and heart failure. In addition, this department aims to identify the molecular target to prevent or treat the fatal arrhythmia. Furthermore, we are interested in the molecular mechanism of pulmonary fibrosis. Since the completion of human genome sequence determination, life science enters into post-genome era that make possible development of tailor-made medicine, and advances in high-throughput genotyping herald a rapid expansion of genomic information in human disease. Recently, this department has been interested in the identification of biomarkers that have incremental value for prevention of cardiovascular and pulmonary disease, and key molecules that are targetable by drugs. With identification of putative risk alleles for heart failure or pulmonary fibrosis, the next step will be exploration of the function of the genes and prospective clinical trials evaluating the benefits of genotype-directed treatment of cardiovascular and pulmonary disease.  
[Keywords]  
nvascular biology, atherosclerosis, heart failure, myocardial infarction, transcription factors |
<table>
<thead>
<tr>
<th>Region</th>
<th>Major Field</th>
<th>Contact Information</th>
<th>Main contents of research and key words</th>
</tr>
</thead>
</table>
| Respiratory Medicine | Takeshi Hisada  
Ext. 8123  
hisadat@gunma-u.ac.jp | Clinical and basic researches for allergy and respiratory diseases are needed more than ever in our aging society. We try to investigate the pathogenesis of these diseases to make them clear. Our oncology unit is focusing on the basic and clinical research for lung cancer. Using genetically modified mice, research for refractory respiratory diseases such as asthma, COPD and lung fibrosis have been investigated.  
[Keywords] lung cancer, allergic respiratory disease, COPD, lung fibrosis, infectious lung disease | |
| Gastroenterology and Hepatology | Toshio Uraoka  
Ext. 8148  
uraoka@gunma-u.ac.jp | In Gastroenterology Unit, we investigate the development of endoscopic diagnosis and therapy for gastrointestinal tumor and pathophysiology of gastroesophageal reflux disease (GERD), esophageal motility disorder, using high resolution manometry (HRM) and intraluminal impedance & pH monitoring and “association between inflammatory bowel disease and cellular stress response”. In Hepatology Unit, we investigate the pathogenesis of viral hepatitis, hepatocarcinogenesis, liver fibrosis and non-alcoholic steatohepatitis, using animal models such as knockout mice, and analyzed clinical samples to establish new methods of the diagnosis and therapy.  
[Keywords] gastrointestinal tumor, GERD, esophageal motility disorder, high resolution manometry, hepatocarcinogenesis, non-alcoholic steatohepatitis | |
| Endocrinology and Metabolism |Masanobu Yamada  
Ext. 8120  
myamada@gunma-u.ac.jp | Cancer, and apoplexy and myocardial infarction due to arteriosclerosis, which account for two thirds of deaths in Japan, are caused by abnormalities of endocrine and metabolic systems, various gene mutations, and/or viral infection. We have investigated the pathogenesis of these disorders using animal models such as knockout mice, and examined gene abnormalities of samples obtained from the surgery to establish new methods of the diagnosis and therapy.  
[Keywords] lifestyle-related diseases, endocrine-metabolic disorders, diabetes mellitus, respiratory allergy disorders, hepatometabolic-digestive disorders | |
| Nephrology and Rheumatology | Keiji Hiromura  
Ext. 8166  
hiromura@gunma-u.ac.jp | We are studying the molecular mechanisms of glomerular and tubulointerstitial injuries and renal tubular regeneration and trying to develop how to control renal injuries and regeneration. We are also examining the role of dendritic cells in renal diseases and autoimmune diseases. To investigate these research questions, we are using genetically modified animals and animal models of human diseases in vivo and several kinds of cultured cells in vitro. In addition, we are exploring and evaluating biomarkers for diagnosis or prognosis of renal and rheumatic diseases, using patients’ urine and tissue samples.  
[Keywords] nephrology, rheumatology, autoimmune disease, regeneration medicine, biomarkers | |
| Hematology | Hiroshi Handa  
Ext. 8166  
handahiros@gunma-u.ac.jp | We study genetic polymorphism and epigenome, comprehensive analysis of RNA, non-coding RNA, microRNA by Next Generation Sequencing (NGS), the carbohydrate metabolism to elucidate the mechanism of the development and the progression of hematologic malignancies. We also conduct study about genetic polymorphism relevant to opportunistic infection in HIV patients, genome wide analysis in congenital coagulation disorder in cooperation with other institutions including in foreign countries. Student will learn NGS, gene introduction into tumor cells and methods of clinical statistics to search a factor associated with disease development, taking advantage of hematologic disorder to be easy to obtain a specimen from human.  
[Keywords] hematologic malignancy, genome, epigenome, coagulation disorder, HIV, next generation sequencer | |
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<tr>
<td>Neurology</td>
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<td>Yoshiho Ikeda</td>
<td>To develop early diagnostic tools and establish useful biomarkers for Alzheimer disease, we are investigating the $\beta$ -amyloid imaging (PIB-PET) and CSF biomarkers. To unravel a pathogenesis of the biggest intractable neurological disease, amyotrophic lateral sclerosis (ALS), we are investigating the autopsy tissues of ALS subjects. Microsatellite-repeat expansions of CAG, CTG, or GGCCTG repeat units are common genetic mutations of the hereditary neurological disorders such as spinocerebellar ataxia (SCA). We are trying to establish cell culture or animal models which are affected by these mutations. We hope to develop a novel disease-modifying therapy for SCA by analyzing these models.</td>
</tr>
<tr>
<td>Cardiovascular Surgery</td>
<td>Tomonobu Abe</td>
<td><a href="mailto:Tomonobuabe@gunma-u.ac.jp">Tomonobuabe@gunma-u.ac.jp</a></td>
<td>According to an increase in aged population, the prevalence of arteriosclerotic diseases and heart failure are rapidly increasing, and part of such patients need surgical treatment. In cardiovascular surgery, organ ischemia occurs in almost all patients, and then the reduction of the ischemia-reperfusion injury is important to the surgical results. It is still controversial in the methods of myocardial protection and brain protection, and we study more effective methods for organ protection.</td>
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<td>Clinical Medicine</td>
<td>General Thoracic Surgery</td>
<td>Akira Mogi</td>
<td>The understanding of fundamental knowledge and concept of malignant diseases in thoracic surgical oncology, in particular, lung cancer, metastatic lung tumor, and thymic epithelial tumor is most important. The various factors related in each stage of carcinogenesis, proliferation, local invasion and also metastasis of tumor are reviewed with the latest knowledge. Furthermore, we make the students understands in the importance of the recent advances in the diagnosis and treatment to patients with thoracic malignant disease. After clarifying the clinical problems, the students will learn the basic experimental techniques necessary for development of new diagnostic method and therapy in surgical science of future.</td>
</tr>
<tr>
<td>Gastroenterological Surgery</td>
<td>Ken Shirabe</td>
<td><a href="mailto:KenShirabe@gunma-u.ac.jp">KenShirabe@gunma-u.ac.jp</a></td>
<td>In Division of Gastroenterological Surgery, researches for whole digestive tract are included. A wide variety of research, which including mechanism of carcinogenesis, growth and invasion of tumor, metastasis of tumor, suppressive research of malignancy and gastrointestinal motility research with conscious dogs, it will read to new therapeutic treatment have been energetically performed. Moreover, several clinical researches including development of excellent diagnostic method and therapeutic method have been performed continuously for the future.</td>
</tr>
<tr>
<td>Breast and Endocrine Surgery</td>
<td>Takaaki Fujii</td>
<td><a href="mailto:TakaakiFujii@gunma-u.ac.jp">TakaakiFujii@gunma-u.ac.jp</a></td>
<td>Breast Cancer is the highest incidence disease among female malignant neoplasm. We review diagnosis and treatment of breast cancer and endocrine disorders. Basic research includes 1) mechanism of therapy resistance in breast cancer, 2) tumor angiogenesis, 3) biomarker of sensitivity for breast cancer treatment, 4) an exhaustive analysis of breast cancer prognostic factors. In addition, clinical study includes 1) additional usefulness of FDG-PET in breast cancer, 2) Mechanism of lymph node metastasis, 3) analysis of navigation surgery for identification of parathyroid glands and sentinel lymph nodes. It is not necessary to focus on the specific research subject, which you belong to. We held a research conference every week and discuss everything to solve the research problems with our professor.</td>
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Keywords: Alzheimer disease, dementia, amyotrophic lateral sclerosis (ALS), spinocerebellar ataxia (SCA), microsatellite-repeat surgery, heart, brain, ischemia, reperfusion injury, organ protection surgical oncology, mechanism of proliferation, invasion and metastasis, driver gene, diagnosis and treatment gastrointestinal surgery, carcinoendocrine, gastrointestinal motility, excellent diagnostic method, development of therapeutic method breast cancer, biomarkers, lymph node metastasis, TILs, microRNA, PET
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|                              | Hepatobiliary and Pancreatic Surgery | Ken Shirabe Ext. 8800 kshirabe@gunma-u.ac.jp | In Department of Hepatobiliary and Pancreatic Surgery, main theme in basic research field, for overcoming refractory cancer, such as hepatobiliary and pancreatic cancer is microenvironment of cancer. In the clinical research field, important theme is new evaluation for liver function, sarcopenia, and laparoscopic surgery in hepatobiliary and pancreatic surgery in safe manner. For developing research, we will send young surgeons to outstanding research center.  
  **[Keywords]** cancer microenvironment, hepatobiliary and pancreatic cancer, liver transplantation, sarcopenia, and laparoscopic surgery for hepatobiliary and pancreatic disease.  |
|                              | Pediatric Surgery                    | Makoto Suzuki Ext. 8224 suzuki-m@gunma-u.ac.jp | We cooperate with other divisions of surgery and organize multidisciplinary research. Our main research subjects are development of new diagnostic and treatment methods with minimally invasive approach. In particular, we study the minimally invasive diagnosis using circulating tumor cells for childhood cancer, the development of new instruments in minimally invasive surgery, and the relation between gastro-intestinal motility and enterobacterial flora after total colectomy for ulcerative colitis.  
  **[Keywords]** surgical oncology, circulating tumor cells, minimally invasive surgery, gastro-intestinal motility, enterobacterial flora  |
|                              | Radiation Oncology                   | Takashi Nakano Ext. 8380 tnakano@gunma-u.ac.jp | The Department of Radiation Oncology practices radiation therapy for various cancers comprehensively. It undertakes basic research on radiation induced apoptosis, modulation of radiation sensitivity by cell cycle regulatory proteins, hypoxia, cell- proliferation proteins, oncogenes, and cancer vasculature. In addition, clinical researches on heavy ion radiotherapy, combination of molecular targeted therapy with radiation, image based brachytherapy, and high precision radiotherapy (IMRT,SBRT, etc) are extensively conducted and promoted.  
  **[Keywords]** radiation therapy, heavy ion therapy, radiation biology, radiation oncology, radiation pathology  |
|                              | Diagnostic Radiology and Nuclear Medicine | Yoshito Tsushima Ext. 8400 yoshitosushima@gunma-u.ac.jp | After the discovery of X-ray CT, there have been incredible advances in diagnostic imaging and it is now indispensable to modern medical care. In addition to CT, MRI, Ultrasound, PET, and SPECT, and the image-guided, minimally invasive techniques of interventional radiology and radioisotope therapy contribute to patient quality of life, and are also hoped to advance medical care. This field researches and new techniques in combining morphological and functional imaging and developing “patient-friendly” treatment methods such as interventional radiology and radioisotope therapy.  
  **[Keywords]** diagnostic radiology, nuclear medicine, CT, MRI, US, SPECT, PET, interventional radiology  |
|                              | Psychiatry and Neuroscience          | Masato Fukuda Ext. 8180 fukuda-psy@gunma-u.ac.jp | Development in neurosciences and brain sciences is just revealing brain dysfunctions for etiology and pathophysiology of psychiatric disorders using neuroimaging and genetic studies. Department of Psychiatry and Neuroscience endeavors to clarify etiology and pathophysiology of “mental dysfunction” employing structural neuroimaging such as MRI, functional neuroimaging such as PET and fMRI, neurophysiology such as MEG, neuroendocrine stress responses such as DST, and animal model of psychiatric disorders.  
  **[Keywords]** psychiatric disorder, neuroimaging, stress, mental illness, brain function  |

* Due to retire in March 2019.
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|              | Anesthesiology    | Shigeru Saito                        | Development in neurosciences and brain sciences is just revealing consciousness, pain sensation, and brain dysfunctions objectively, by using neuroimaging and/or genetic studies. Department of Anesthesiology endeavors to clarify origin of consciousness and pain perception, and to modify such neuronal functions pharmacologically. In addition to classical biochemical, physiological and anatomical strategies, modern genetic and fMRI methods are employed to investigate Anesthesiology topics. Pharmaceutical, pharmacodynamic and behavioral approaches are also adopted for both of clinical and basic pain researches.  
(Keywords) anesthesia, neuroimaging, consciousness, pain, brain function |
|              | Emergency Medicine| Kiyohiro Oshima                      | (Basic research)  
Experimental study for the brain prevention following cardiopulmonary resuscitation (CPR)  
Experimental study to clarify the mechanism of ischemia-reperfusion injury following CPR and to reduce its injury  
Experimental study of dynamics and usefulness of vasopressors in cardiopulmonary arrest  
(Clinical research) Study of clinical factors to predict the prognosis in patients with cardiopulmonary arrest  
Study of clinical factors to predict the injury severity in patients with multiple traumas  
Study of clinical factors to predict the prognosis in elderly emergent patients  
Study of clinical factors to predict blood transfusion in patients with pelvic fracture  
(Keywords) cardiopulmonary arrest, cardiopulmonary resuscitation, severe trauma, reperfusion injury, coagulation |
| Clinical Medicine | General Practice Medicine | Junichi Tamura                       | In our department, we are going to study about many problems in gerontology, especially methods of nutrition for old people. We are interested in the effects of the lack of trace elements on immune systems or protection to infectious disease.  
(Keywords) geriatrics, nutrition, primary care, gerontology |
| Rehabilitation Medicine | Naoki Wada         |                                    | Rehabilitation medicine is a transverse field of diagnostic as well as therapeutic medicine for infant-to-elder patients with a great variety of diseases. The course of rehabilitation medicine consists of basic knowledge of rehabilitation medicine, which are kinesiology, central and peripheral nerve system, respiratory, cardiac systems and psychiatry. The students discuss the methods for evaluation of disabilities and the equipment for the measurements. The indications of scales, rating scores and other evaluation methods for functional and mental disorders will be studied. Biological and cytological methods are also applied to the analysis, and the cellular reaction by physical stimulation will be observed. Statistical analysis will be indicated for the measurements and evaluations. Investigation of the results and publishing some conclusions in the journal is the purpose of the courses.  
(Keywords) disability medicine, diagnostic medicine, therapeutic medicine, kinesiology |
| Clinical Laboratory Medicine | Masami Murakami     |                                    | Modern medicine and preventive medicine aim at the evidence based medicine (EBM). Clinical laboratory medicine plays a key role in EBM. Therefore the research field of clinical laboratory medicine extends to every field. We are investigating sports medicine and pathophysiology of diabetes, thyroid diseases, atherosclerosis and infectious diseases using gene analysis and new methods.  
(Keywords) gene analysis, diabetes mellitus, thyroid disease, atherosclerosis, infectious diseases, sports medicine, clinical laboratory medicine, lifestyle-related disease |
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| Human Pathology | Hideaki Yokoo                      | hyokoo@gunma-u.ac.jp                 | Pathology has dual aspects, one is basic science that aims to investigate causes of diseases, and the other is pathological diagnosis and classification of diseases. We shed light on neuropathology for years, and investigate pathogenesis, pathological diagnosis, and novel therapy of various diseases of the nervous system. Especially, our research group consistently plays a central role of brain tumor pathology of Japan for decades. We chiefly handle human samples, and also possess original transgenic animals prone to brain tumors.  
**Keywords**  
neuropathology, brain tumor, molecular and cytogenetics of tumor, glial cells, translational research. |
| Diagnostic Pathology | Tetsunari Oyama                   | oyama@gunma-u.ac.jp                  | Cancer is a “genetic disease” and oncogene and tumor suppressor genes have a great influence to carcinogenesis. Most cancers develop by multi-step accumulation of genetic mutation with environmental and morphological changes. The main purpose of the course is to clarify the genetic change from morphological change or gene-related protein expression during cancer development and feedback to the diagnostic tumor pathology.  
**Keywords**  
cancer morphology, multi-step carcinogenesis, oncogene, tumor suppressor gene, protein expression |
| Pediatrics      | Takumi Takizawa  
(Associate Professor) | takizawa@gunma-u.ac.jp                | Various diseases in children are closely related to the growth and development of individuals. In addition, the diseases may be caused by breakdown of defense mechanism and homeostasis in response to ambient stimuli. Our aim is to reveal the mechanisms of mucosal immunity related to several infections, the role of autophagy needed to maintenance of intracellular homeostasis, and new genetic mutation and epigenetics related to development of diseases.  
**Keywords**  
allergic diseases, neurodegenerative disorder, acute leukemia, nephrosis, inflammatory bowel diseases. |
| Obstetrics and Gynecology | Akira Iwase                      | akiwase@gunma-u.ac.jp                | Our research field includes reproductive medicine & biology, gynecology and obstetrics. Main research interests are hypothalamuspituitary-ovarian axis and endometriosis in the field of reproductive medicine & biology, uterine and ovarian cancer in gynecology, and obstetrics complications. We adopt up-to-date techniques of molecular biology and epidemiology.  
**Keywords**  
reproductive endocrinology and biology, endometriosis, gynecologic malignancies and obstetrics complication |
| Obstetrics and Gynecology | Kazuhiro Suzuki                  | kazu@gunma-u.ac.jp                   | Our department has focused on understanding of the pathophysiology of prostate cancer. Basic studies cover genetic analysis, the role of lipids and intratumoral hormonal environment. Clinical studies cover the role of the tumor marker PSA and screening of prostate cancer.  
**Keywords**  
urological tumor, prostate cancer, androgen dependency, screening |
| Neurosurgery    | Yuhei Yoshimoto                   | yyoshimo@gunma-u.ac.jp               | Neurosurgical science had been evolved remarkably for recent 10 years with the introduction of new devices, including an endovascular catheter, an endoscope, and intraoperative monitoring systems, etc. These technical innovations make it possible to approach neurosurgical diseases with minimally invasive way. We will understand more deeply central nervous system, anatomically, pathologically, and biochemically, and develop pre, and intraoperative neurophysiological, and imaging studies. Then, we pursue the truly sophisticated treatment for neurosurgical diseases.  
**Keywords**  
 micro-neurosurgery, interventional radiology, endoscopic neurosurgery, intraoperative imaging, intraoperative neurophysiology |
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<tr>
<td></td>
<td>Ophthalmology</td>
<td>Hideo Akiyama Ext. 8338</td>
<td>We are investigating 1) the mechanisms of pathogenesis in fundus diseases with optical coherence tomography (OCT) and 2) the lifetime of phosphorescence from iridium complex to develop a new system which can measure oxygen partial pressure in retinal tissue. Furthermore, our concern is also 3) the molecular mechanisms of damages in photoreceptor after retinal detachment using animal models. <strong>Keywords</strong>: hematologic malignancy, genome, epigenome, coagulation disorder, HIV, next generation sequencer</td>
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<tr>
<td>Otolaryngology Head and Neck Surgery</td>
<td>Kazuaki Chikamatsu Ext. 8350 <a href="mailto:tikamatsu@gunma-u.ac.jp">tikamatsu@gunma-u.ac.jp</a></td>
<td>Antitumor immunity plays an important role in protection against the development of malignancy. However, with a developing tumor, tumor cells acquire various mechanisms to corrupt the host antitumor responses, escape from immunosurveillance system, and grow in the host. The followings are current studies being conducted. 1) Immunological analysis of T cells in patients with head and neck cancer 2) Analysis of interaction between tumor cells and stromal cells in head and neck cancer <strong>Keywords</strong>: head and neck cancer, immunosuppression, cancer vaccine, tumor microenvironment</td>
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<td>Dermatology</td>
<td>Osamu Ishikawa Ext. 8280</td>
<td>Our research goal is “Bedside to Bench and Bench to Bedside” to cure and care patients suffering from diseases of unknown etiology or intractable diseases. Our experienced staff supervises and assists you to publish the high quality paper to the world. Our main research themes are as follows: systemic sclerosis, dermatomyositis, viral infection, wound healing, cutaneous malignant neoplasms, and hereditary diseases. <strong>Keywords</strong>: skin, autoimmune rheumatic disease, cutaneous malignant neoplasms, wound healing, hereditary diseases</td>
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<tr>
<td>Clinical Medicine</td>
<td>Plastic Surgery</td>
<td>Takaya Makiguchi Ext. 8484 <a href="mailto:tmakiguchi@gunma-u.ac.jp">tmakiguchi@gunma-u.ac.jp</a></td>
<td>We are investigating in collaboration with department of Oral and Maxillofacial Surgery and Dermatology. Present research theme are 1) Clinical and experimental study wound healing, 2) Clinical and experimental study of free flap reconstruction. 3) Evaluation of breast, head and neck reconstruction with brain science using MRI images. <strong>Keywords</strong>: reconstruction, free flap, wound healing, breast reconstruction</td>
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<td>Orthopaedic Surgery</td>
<td>Hirotaka Chikuda Ext. 8260 <a href="mailto:chikudah@gunma-u.ac.jp">chikudah@gunma-u.ac.jp</a></td>
<td>Nowadays, it is important to facilitate the maintenance and improvement of bone and joint function. The aim of our department contributes further to the development of musculoskeletal medicine through research, maintenance of health, prevention of diseases, development of public health in both mind and body mainly through sports medicine, support for the handicapped, and extension of social welfare services for the aged. <strong>Keywords</strong>: osteoarthritis, spondylotic deformans, joint arthroplasty, sports injury, musculo-skeletal tumor</td>
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<td>Clinical Pharmacology and Therapeutics</td>
<td>Koujirou Yamamoto Ext. 8743 <a href="mailto:koujiro@gunma-u.ac.jp">koujiro@gunma-u.ac.jp</a></td>
<td>Recently, many new drugs with novel mechanisms have produced to improve the clinical efficacy of drug therapy, however, the development of new drugs also have produced a lot of new problems to be solved. In the pharmacotherapy, the choice of appropriate therapy or drugs for each individual patient is imperative. To establish safe and effective pharmacotherapy, we focus the variation factors for clinical efficacy of drug therapy for several diseases with gene analysis and pharmacokinetic approaches. <strong>Keywords</strong>: clinical pharmacology, pharmacokinetics, genetic polymorphisms, individualization of drug therapy</td>
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<tr>
<td>Clinical Medicine</td>
<td>Oral and Maxillofacial Surgery</td>
<td>Satoshi Yokoo</td>
<td>Present research theme 1) Epithelialization in oral mucous wound healing in terms of energy metabolism. 2) Cytological evaluation in odontogenic cyst-lining keratinocyte. 3) Oral and maxillofacial reconstruction with vascularised free flaps. 4) Evaluation of treatment strategy of oral cancer. 5) Effects of pilocarpine and isoproterenol on aquaporin-5 expression in salivary gland. 6) Clinical and experimental study of endodontic microsurgery for extensive radicular cyst. 7) Surgical study of jaw deformity [Keywords] oral mucous wound healing, oral and maxillofacial reconstruction, oral cancer, salivary gland, jaw deformity</td>
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<td>Ext. 8480 <a href="mailto:syokoo@gunma-u.ac.jp">syokoo@gunma-u.ac.jp</a></td>
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<td>Quality and Safety in Healthcare</td>
<td>Yasuhiro Komatsu</td>
<td>Discipline of healthcare quality and safety aims to promote evidence-based, patient-centered quality healthcare through education, practice, and research utilizing multidisciplinary approach. Areas of interests include application of quality and safety indicators, studies of decision making process including shared decision making, development of methodology for analysis and prevention of medical errors, and promotion of interprofessional collaboration. [Keywords] healthcare quality, patient safety, quality indicator, shared decision making, interprofessional collaboration</td>
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<td>Ext. 8767 <a href="mailto:komayasu@gunma-u.ac.jp">komayasu@gunma-u.ac.jp</a></td>
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<tr>
<td>Cooperative Department (University Hospital)</td>
<td>Clinical Trials and Regulatory Science</td>
<td>Tetsuya Nakamura</td>
<td>Clinical trials and research are advanced very rapidly and changed dramatically in recent years. We conduct and support a variety of clinical trials in our hospital and in our community to establish highly qualified clinical evidence. We continuously improve our knowledge and skills about trial design, data management, statistical methods, regulatory science or ethical issues in daily practice. We are trying to open a door for new world of clinical research science. [Keywords] clinical research, study design, statistics</td>
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<td>Ext. 8740 <a href="mailto:nakamur@gunma-u.ac.jp">nakamur@gunma-u.ac.jp</a></td>
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<tr>
<td>Medical Informatics</td>
<td>Yuichiro Saito</td>
<td>Medical Information, health care, hospital information system</td>
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<td></td>
<td>(Associate Professor)</td>
<td>Ext. 8771 <a href="mailto:saito-yui@gunma-u.ac.jp">saito-yui@gunma-u.ac.jp</a></td>
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<td>Cooperative Department for Molecular and Cellular Regulation</td>
<td>Molecular Traffic</td>
<td>Ken Sato</td>
<td>Membrane trafficking plays essential roles not only in secretion and nutrient uptake but also in various physiological processes such as the endocrine system, the metabolic system, the nervous system, and animal development. In our laboratory, we study the molecular mechanisms and physiological functions of membrane trafficking in multicellular organisms by using the nematode Caenorhabditis elegans and mice as model systems. [Keywords] membrane trafficking, secretion, metabolism, development, C. elegans, knockout mouse</td>
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<td>Ext. 8840 <a href="mailto:sato-ken@gunma-u.ac.jp">sato-ken@gunma-u.ac.jp</a></td>
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<td>Medical Neuroscience</td>
<td>Akiko Hayashi-Takagi</td>
<td>The deterioration of the synapses has attracted attention as the pathophysiology of neuropsychiatric disorders. Thus, we examine the relationship between the structural and functional property of synapse and behavioral manifestations by utilizing in vivo 2-photon imaging. Furthermore, we also utilize novel optogenetic tools, which can manipulate the plasticity of the synapse in order to alter neurocircuits by extension changing the behaviors. By these two strategies, we pursue the cellular mechanism of neuropsychiatric disorders to identify a novel therapeutic target for disorders. [Keywords] neuropsychiatric disorders, synapse, 2-photon imaging, signal transduction, drug discovery</td>
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<td>Secretion</td>
<td>Seiji Torii</td>
<td>With the decrease of neuroendocrine function, a variety of diseases increase, which include metabolic syndrome and neuronal disorders. To understand fundamental mechanisms on such human diseases, we investigate the biosynthesis and secretion of peptide hormones, and the regulation of cell survival and death, with use of molecular and cellular technical approaches. In a collaborative study with some engineering researchers, we are also developing fluorescent or luminescent probes for analyzing cancer, diabetes, and ischemia. [Keywords] peptide hormones, insulin, fluorescent probes, molecular imaging, tumor cells, cell death</td>
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<td>Biology</td>
<td>(Associate Professor)</td>
<td>Ext. 8859</td>
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<td>Molecular</td>
<td>Miyuki Sato</td>
<td>Eukaryotic cells are composed of several membrane-bound organelles. The shape and composition of organelles are dynamically regulated during cell differentiation and are also influenced by various changes in the extracellular environment. We are interested in the regulation of organelle dynamics during animal development and use C. elegans as a model system. In particular, we explore the mechanisms and physiological roles of autophagy and endocytosis in fertilized eggs by using genetic and cell biological approaches. [Keywords] C. elegans, embryonic development, organelle, autophagy, endocytosis</td>
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<td>Membrane</td>
<td>(Associate Professor)</td>
<td>Ext. 8843</td>
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<td>Biology</td>
<td>Tetsuro Iizumi</td>
<td>To understand the physiopathology of multicellular organisms, it is important to know how differentiated cells communicate with each other to regulate their function as a whole body. We especially focus on the basic biology of pancreatic beta cells, adipocytes, and immune cells, because of their involvement in the pathogenesis of endocrine, metabolic, and allergic diseases such as diabetes, obesity, and asthma. We approach these themes at multiple levels from molecule to a whole body, and by using varying techniques of a molecular biology, biochemistry, cell biology, and genetics. [Keywords] genetically modified mouse, regulated exocytosis, endocrine, metabolic, and allergic disease, live cell imaging, cell sorting</td>
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<td>Endocrinology and Metabolism</td>
<td>Ext. 8856</td>
<td><a href="mailto:tizumi@gunma-u.ac.jp">tizumi@gunma-u.ac.jp</a></td>
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<td>Yoshio Fujitani</td>
<td>The dysfunction of pancreatic cells or brown adipocytes can cause diabetes and metabolic syndrome. We aim to elucidate the mechanism involved in the maintenance of homeostasis in these higher-order function cells, which is the key to glucose metabolism, from a variety of viewpoints, including developmental biology, molecular biology, and physiology. Recent studies have indicated that zinc not only plays a crucial role in the maintenance of protein structure, but is also involved in intracellular and extracellular signal transduction. Our second aim is to clarify the role of zinc signaling in diabetes and obesity. Furthermore, using our findings from basic medical research, we aim to establish a groundbreaking treatment for diabetes and obesity. [Keywords] pancreatic β cell, development, autophagy, brown adipocyte, zinc biology, glucose metabolism</td>
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<td>Ext. 8855</td>
<td><a href="mailto:fujitani@gunma-u.ac.jp">fujitani@gunma-u.ac.jp</a></td>
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<td>Metabolic</td>
<td>Tadahiro Kitamura</td>
<td>In this laboratory, we are trying to elucidate the molecular mechanism by which metabolic syndrome occurs, using genetically manipulated animal models, such as knockout mice or transgenic mice. We hope that our research will contribute to the development of new strategies to treat or prevent diabetes and obesity. [Keywords] diabetes, obesity, metabolic syndrome, transcription factor, knockout mouse, insulin, glucagon</td>
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<td>Signaling</td>
<td>Ext. 8845</td>
<td><a href="mailto:kitamura@gunma-u.ac.jp">kitamura@gunma-u.ac.jp</a></td>
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| Laboratory of Epigenetics and Metabolism | Takeshi Inagaki  
Ext : 8835  
inagaki@gunma-u.ac.jp | Epigenetic regulation of gene expression is independent of genomic sequence and therefore can flexibly respond to environmental factors. We are currently investigating various epigenetic mechanisms by which the environmental factors are linked to metabolic diseases. Main focus of our research is histone modification which regulates gene expression through changing chromatin structure and cofactor recruitment. Using techniques of transcriptomics, epigenetics, proteomics and animal models, we intend to elucidate the detail mechanisms of epigenetic regulations of energy metabolism and adipose cell development.  
**[Keywords]**  
epigenome, metabolic diseases, energy metabolism, transcription, chromatin structure |
| Molecular Genetics | Takayuki Yamashita  
Ext. 8830  
y-taka@gunma-u.ac.jp | A wide variety of intrinsic and environmental stresses induce cellular senescence, apoptosis and genomic instability. These “stress responses” underlie the pathogenesis of aging-related diseases and tumor development. Specifically, we aim to clarify (i) the molecular mechanisms of oncogene-induced DNA replication stress in genomic instability and (ii) the regulatory role of HSF1, a master transcription factor of the heat shock response, in cellular senescence.  
**[Keywords]**  
DNA replication stress, genomic instability, carcinogenesis, heat shock transcription factor 1, cellular senescence |
| Genome Sciences | Izuho Hatada  
Ext. 8057  
hatada@gunma-u.ac.jp | Epigenetics is the study of heritable codes other than genetic codes written in A,G, C, and T. Monozygotic twins have the same genetic information; however, they have different epigenetic information and phenotype. DNA methylation and histone modifications (acetylation and methylation) serve as epigenetic code. Epigenetic status, namely, epigenome, is thought to be influenced by the environment, such as food, infection, and chemicals. This reprogramming of the epigenome by the environment could cause diseases such as cancer, and diabetes. We are going to clarify the role of epigenetic anomalies in diseases such as cancer, diabetes and obesity.  
**[Keywords]**  
epigenetics, epigenome, DNA methylation, microarray, genome-wide analysis, ageing |
| Laboratory of Integrated Signaling Systems | Tohru Ishitani  
Ext. 8892  
ishitani@gunma-u.ac.jp | Morphogen signaling systems, such as Wnt signaling, plays crucial roles in animal tissue morphogenesis and homeostasis, and dysregulation of morphogen signaling causes a variety of diseases, including cancer, metabolic diseases, and neurological diseases. Our laboratory investigates the regulatory mechanisms of morphogen signaling systems and also searches for unknown signaling systems that regulate tissue morphogenesis and homeostasis, using in vivo imaging, biochemistry, and molecular genetics. Especially, we are now focusing on “cell competition”, a new system supporting animal tissue homeostasis.  
**[Keywords]**  
signal transduction, morphogen, cell competition, in vivo imaging, disease model |
| Medical Physics and Biology for Ion Therapy | Masami Torikoshi  
Ext. 8378  
torikosi@gunma-u.ac.jp  
Akihisa Takahashi  
Ext. 7917  
a-takahashi@gunma-u.ac.jp | In this course, we aim to nurture researchers in the field of medical physics who are indispensable for ensuring the reliability of radiotherapy through sophisticated research and credibile study of heavy ion and x-ray radiotherapies. To improve radiotherapy and to use space environment we carry out in vitro and in vivo experiments regarding a variety of radiation-induced biological phenomena. Another important purpose of this course is to increase the expertise of those radiobiology specialists involved in radiotherapy and space science.  
**[Keywords]**  
radiotherapy, heavy ion radiotherapy, medical physics, accelerator, radiation biology, effect of space radiation |

* Due to retire in March 2019.
<table>
<thead>
<tr>
<th>Region</th>
<th>Major Field</th>
<th>Contact Information</th>
<th>Main contents of research and key words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute of Molecular and Cellular Regulation</td>
<td>Heavy Ion Clinical Medicine</td>
<td>Tatsuya Ohno Ext. 8378 <a href="mailto:tohno@gunma-u.ac.jp">tohno@gunma-u.ac.jp</a></td>
<td>Heavy ion radiotherapy for malignant tumors has several biophysical advantages compared with photon therapy. Heavy ion clinical medicine includes radiobiology, medical physics and engineering, tumor pathology, clinical oncology, and radiation diagnosis. This course is implemented to understand that the radiation oncology including heavy ion radiotherapy is comprehensive medical science which integrates and systematizes these wide varieties of scientific subfields to attain successful cancer treatment. <strong>Keywords:</strong> heavy ion radiotherapy, multimodality cancer therapy, biological response, high LET, hypofractionation, Image-guided adaptive radiotherapy</td>
</tr>
<tr>
<td>Joint Department</td>
<td>Quantum Biology</td>
<td>Takasaki Advanced Radiation Research Institute, National Institutes for Quantum and Radiological Science and Technology Yasuyuki Ishii Yasuhiko Kohayaichi Kazuo Funayama Contact to Admissions Section, Educational Affairs Office</td>
<td>We are researching biological functions at the molecular, cellular and tissue levels using the physical and biological effects of ion beams at the ion beam irradiation facility of Takasaki Advanced Radiation Research Institute. Our final goal is the development of new methods of analyzing biological function not possible with previously established methods. The major subjects are as follows:  · Making advances in micro-PIXE (Particle Induced X-ray Emission) analysis.  · Developing a technology to target and hit a cell or a tissue with a single-heavy-ion of several hundred MeV within 1 μm spatial accuracy under microscope observation. Elucidating effects induced to normal or cancer human cells irradiated with heavy ions, and to those not irradiated (bystander effect). <strong>Keywords:</strong> ion beam, microbeam, micro-PIXE, single-ion hit, irradiation of targeted cell, radiosurgery, bystander effect</td>
</tr>
</tbody>
</table>
出願関係書類様式
Application-Related Forms

◆入學願書・履歴書
Application Form and Curriculum Vitae

◆成績評価合計単位数証明書
Certificate of Total credits of the academic tanscript

◆志願理由書
Statement of Purpose

◆検定料振込用紙
Examination Fee Transfer Forms

◆振込金受付証明書・
検定料納付証明書貼付付合紙
Sheet for Certificate of Transfer Receipt, Certificate of Payment

◆写真票・受験票
Photograph Verification Card, Examination admission Card

◆受験承諾書（該当者のみ）
Written approval for taking examination（only a person concerned）

◆宛名票
Name and Address Card

◆入学資格審査申請書（該当者のみ）
Application for the screening for admission requirements
（only a person concerned）

◆研究歴証明書（該当者のみ）
Certificate of Research Activities
（only a person concerned）

※本様式は本学大学院医学系研究科・医学部ホームページ
(http://www.med.gunma-u.ac.jp/)に掲載しております。
必要な方はそちらも御利用ください。

※The above forms are posted on the website of Graduate School of Medicine/School of Medicine, Faculty of Medicine, Gunma University (http://www.med.gunma-u.ac.jp/). If you need them, please use the website as well.
# 入学願書

2019 Course of Biomedical Sciences in Graduate School of Medicine, Gunma University (Master’s Program)

**Application Form**

### 受験番号

Examinee's Number

### 氏名

Name

### 生年月日

Birth Date

<table>
<thead>
<tr>
<th>A.D. Year</th>
<th>Month</th>
<th>Day</th>
</tr>
</thead>
</table>

### 年齢

Age

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Day</th>
</tr>
</thead>
</table>

### 志望する専攻分野

Desired Major Field

- 第一志望
- 第二志望

### 国籍

Nationality

（外国籍の者のみ記入）

### 現住所

Current Address

（Contact address for receiving information about entrance examination without fail）

<table>
<thead>
<tr>
<th>&quot;〒&quot;</th>
<th>番地</th>
</tr>
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</table>

### 出身大学等

University etc, graduated

（Contact address for receiving information about entrance examination without fail）

<table>
<thead>
<tr>
<th>University</th>
<th>Department</th>
<th>Subject</th>
<th>Year</th>
<th>Month</th>
</tr>
</thead>
</table>

### 本人以外の入試に関する連絡先（家族等）

（Contact address for exam other than your current address [such as your family’s address]）

### 観歴事項

Personal History

#### 学歴

Educational Background

- 年月日入学生
- 年月日卒業

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Day (Admission)</th>
<th>Year</th>
<th>Month</th>
<th>Day (Graduation)</th>
</tr>
</thead>
</table>

#### 戦歴

Professional Background

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<th>Year</th>
<th>Month</th>
<th>Day</th>
</tr>
</thead>
</table>

### Notes on filling in

1. Fill in the above application form in the block style and accurately by using a blue or black ball-point pen.
2. Fill in your working place and occupation minutely if you are a working person.
3. Fill in the current address where notice and inquiry, etc. can be received without fail.
4. Do not fill in the "#box."
5. Fill in the "Educational Background box" with your background such as research student, post-graduate student, etc.
6. Write your first choice in the Desired Major Field.
**Curriculum Vitae**

### Educational background

<table>
<thead>
<tr>
<th>Name and Address of School</th>
<th>Year and Month of Entrance and Completion</th>
<th>Duration of Attendances</th>
<th>Diploma or Degree awarded, Major Subject, Skipped years/levels</th>
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<tbody>
<tr>
<td><strong>Elementary Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
</tr>
<tr>
<td><strong>Elementary School</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
</tr>
<tr>
<td><strong>Lower Secondary School</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
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<tr>
<td><strong>Upper Secondary School</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
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<tr>
<td><strong>Higher Education</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
</tr>
<tr>
<td><strong>Undergraduate Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
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<tr>
<td><strong>Graduate Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months</td>
<td></td>
</tr>
</tbody>
</table>

Total number of years of the aforementioned schooling (As of April 1, 2019 (2019年4月1日現在))

### Employment History (Begin with the most recent employment history, if applicable.)

<table>
<thead>
<tr>
<th>Name and Address of Employer</th>
<th>Period of Employment</th>
<th>Position</th>
<th>Type of Work</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>From</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Kindergarten education and nursery school education are not included. (幼稚園・保育所教育は含まれない。)
2. So-called "daigaku-yobi-kyoiku (preparatory education for university admission)" is included in upper secondary school. (いわゆる「大学予備教育」は中等教育に含まれる。)
3. If the applicant has passed the university entrance qualification examination, fill in that effect in *-1 column. (本人が大学入試資格試験に合格している場合には、その旨を*1欄に記入すること。)
4. If the so-called "grade-skipping" has been carried out, write that effect in the applicable column. "Diploma or Degree awarded, Major Subject, Skipped years/levels" (例: 高校3年次の飛び越えにより短期卒業）

---

*If the blanks above have not sufficient space to be filled in, write on another appropriate sheet and attach it. (注) 上欄に書き切れない場合には、適当な別紙に記入して添付すること。*

日付（Date） __________ 出願者名前（Name） __________
出願者署名（Signature） __________

---

Notes:
1. Kindergarten education and nursery school education are not included. (幼稚園・保育所教育は含まれない。)
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日付（Date） __________ 出願者名前（Name） __________
出願者署名（Signature） __________

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Notes:
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日付（Date） __________ 出願者名前（Name） __________
出願者署名（Signature） __________

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Notes:
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日付（Date） __________ 出願者名前（Name） __________
出願者署名（Signature） __________

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Notes:
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日付（Date） __________ 出願者名前（Name） __________
出願者署名（Signature） __________
# Certificate of Total credits of the academic transcript

大学の御担当者の方へ
本様式を厳封にて作成・発行し、申請者に交付してください。

To the registrar
Please issue this form sealed off in the university envelope and send to the applicant.

<table>
<thead>
<tr>
<th>Applicant’s name</th>
<th>Grade</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Total Credits (Bachelor)</th>
</tr>
</thead>
</table>

証明書発行日：
Date of issue：

發行者の署名
Signature of Register

※学士（卒業見込みも含む）の各評価の合計単位数を記載してください。群馬大学医学部医学科の卒業及び卒業見込みの者は合計単位数の記載は不要です。
A評価より良い成績、例えばSなどがある場合、すべてAに含めてください。
成績証明書に上記の情報が記載されている場合、本様式の提出は不要です。

※ Fill in the total credits of each grade of Bachelor’s degree including the expected ones. Students who graduated or expected to graduate the Faculty of Medicine, School of Medicine of Gunma University do not need to write the total credits. If your school adopt a grade such as “S”, meaning better than “A”, please add its credits to A’s. If the transcript contains above information, this form in unnecessary.

公 印

Official seal of the University
平成31年度群馬大学大学院医学系研究科生命医科学専攻(修士課程)
志 願 理 由 書

2019 Course of Biomedical Sciences in Graduate School of Medicine, Gunma University (Master’s Program)

Statement of Purpose

※欄は記入しないでください
Do not fill in the "*" box.

<table>
<thead>
<tr>
<th>フリガナ (Name)</th>
<th></th>
<th>受験番号 (Examinee’s Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>氏名 (Name)</td>
<td></td>
<td>※</td>
</tr>
</tbody>
</table>

Statement of Purpose
平成31年度群馬大学大学院医学系研究科
生命医科学専攻(修士課程) 検定料振込用紙

注意事項
① 振込は本学専用の検定料振込用紙を使用し、最寄りの金融機関の窓口から
電信払いで振込んでください。（ゆうちょ銀行からは振り込みできません。）
ATM（現金自動預け払い機）携帯電話及びパソコン等からは振り込まないでください。
② 太枠の中をボールペンで御記入ください（鉛筆書きのものは不可）。
③ 振込手数料は振大人負担となります。
④ 振込用(大学提出用)の「振込金受付証明書」に金融機関出納印が押印してあることを確認し、
「振込金受付証明書・検定料収納証明書交付台紙」に貼付し出願書類に同封してく
ださい。
⑤ 振込金受取書は本人の控えとして、大切に保管しておいてください。

添付用（大学提出用）
平成31年度群馬大学大学院医学系研究科医学科学専攻(修士課程) 検定料振込用紙

平成31年度群馬大学大学院医学系研究科学科学専攻(修士課程) 検定料振込用紙

2019 Course of Biomedical Sciences in Graduate School of Medicine,
Gunma University (Master's Program) Examination Fee Transfer Forms

Notes:
① The payment must be made at a teller's window of your nearest bank as wire transfer
using the below Examination Fee Transfer Forms issued by our University (the payment
cannot be made at post office). You are not supposed to make the payment by using ATM
(automatic teller machine), cell phone, or the Internet.
② Fill out the thick-bordered boxes by using a ball-point pen. (The forms written in pencil
are unacceptable.)
③ A bank transfer fee must be borne by a person who pays the fee.
④ Confirm that the "Certificate of Transfer Receipt" provided (for being submitted to
University) is sealed by financial institution and paste it on the "Sheet for Certificate
of Transfer Receipt" and be sure to enclose it with the admission documents.
⑤ Make sure you keep the transfer receipt as your own duplicate with good care.

添付用（大学提出用）
2019 Course of Biomedical Sciences in Graduate School of Medicine, Gunma University (Master’s Program)
Sheet for Certificate of Transfer Receipt

1. Payment at bank
   Certificate of Transfer Receipt
   Please paste “Certificate of payment” here.

2. Payment at Convenience Store
   Certificate of Payment
   Please paste “Certificate of Payment” above.
   If you are receiving the Japanese Government (MEXT) Scholarship at the time of application, the examination fee payment is not required. Please submit the document certifying that you are the recipient of the scholarship.

3. Payment by Credit card
   Certificate of Payment
   Please paste “Certificate of Payment” above.
   If you are receiving the Japanese Government (MEXT) Scholarship at the time of application, the examination fee payment is not required. Please submit the document certifying that you are the recipient of the scholarship.

- I am receiving the Japanese Government (MEXT) Scholarship at the time of application. (Fill in a circle in the square. The recipient of the scholarship doesn’t have to pay the examination fee.)

- I am the sufferer from Great East Japan earthquake and applying for exemption of the examination fee. (Fill in a circle in the square. The applicant doesn’t have to pay the examination fee.)

Please select one from the following four payment methods.
1. Payment at a bank in Japan (the payment cannot be made at post office).
   (1) The examination fee transfer form [Form 4] provided must be used and the payment should be made at a teller’s window of your nearest bank. Bank transfer fees are chargeable on the person who pays the fees.
   (2) Confirm that the “Certificate of Transfer Receipt” is sealed by the bank (financial institution) and paste it on the prescribed place in the “Sheet for Certificate of Transfer Receipt”.
   (3) The transfer payment receipt should be kept with good care as your own duplicate.
   (4) Transfer payment period: August 6 (Mon.) to 3:00 p.m. (Japan time) of August 21 (Tue.), 2018.
   (5) We do not accept the “Certificate of Transfer Receipt” without a seal by financial institution, one with the amended amount of money, or one written with a pencil. Payment by using ATM (Automated Teller Machine), cell phone or personal computer should not be made.

2. Payment at a convenience store (make sure that you have a personal computer or cell phone with you).
   (1) Refer to the page 42 when you pay at a convenience store. Payment commissions are chargeable on the person who pays the fees.
   (2) After payment, receive the “Application Fee Statement”, detach the “Certificate of Payment” (receipt) portion from it, and paste it on the prescribed place in the “Sheet for Certificate of Transfer Receipt” [Form 4].
   (3) Payment period: August 6 (Mon.) to 3:00 p.m. (Japan time) of August 21 (Tue.), 2018. When you make payment via the web site, you have to pay 30 minutes before the end of payment period.

3. Payment by credit card (make sure that you have a personal computer or cell phone connected to a printer with A4 paper with you).
   (1) Refer to the page 42 when you pay by credit card. Payment commissions are chargeable on the person who pays the fees.
   (2) After payment, print the “Application Fee Statement”, detach the “Certificate of Payment” (receipt) portion from it, and paste it on the prescribed place in the “Sheet for Certificate of Transfer Receipt”.
   (3) Payment period: August 6 (Mon.) to 3:00 p.m. (Japan time) of August 21 (Tue.), 2018.
### Photograph Card

<table>
<thead>
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<th>受験番号</th>
<th>Examinee’s Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>フリガナ</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
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<th>Name</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>志望 専攻分野</th>
<th>Desired Major Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>第一志望 The first choice</td>
<td></td>
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</table>

<table>
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<tr>
<th>志望 専攻分野</th>
<th>Desired Major Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>第二志望 The second choice</td>
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### Examination Card

<table>
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<tr>
<th>志望 専攻分野</th>
<th>Desired Major Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>第二志望 The second choice</td>
<td></td>
</tr>
</tbody>
</table>

#### Notes when filling in the cards
1. Necessary matters must be filled in accurately and in the block style by using a blue or black ball-point pen.
2. Do not fill in the "*" box.
3. Write your first choice in the Desired Research Area column.

#### Notes when taking the examination
1. Examinees must assemble in the examination room at least 30 minutes before the start of the examination.
2. In the examination room, sit at the seat which your examinee’s number is posted on and place your examination card on the top right corner of the desk.
3. Lateness within 30 minutes after the start of the examination will be accepted, but the test time shall not be extended.
4. Other detailed notes about the examination will be directed at the examination room.

#### Notes when taking the examination
1. Examinees must carry his/her examination card.
2. Examinees are required to assemble in the examination room at least 30 minutes before (by 9:30 a.m.) the start of the examination.
3. In the examination room, sit at the seat which your examinee’s number is posted on and place your examination card on the top right corner of the desk.
4. Lateness within 30 minutes after the start of the examination will be accepted, but the test time shall not be extended.
5. Other detailed notes about the examination will be directed at the examination room.
受験承諾書
Written approval for taking examination

氏名 (Name)

生年月日 (Birth Date)

職名 (Official Title)


群馬大学長 殿
To President of Gunma University

所属長又は任命権者 Supervisor or Appointer

職印 Official Seal

所属機関 Institution the Examinee Belongs to

所在地 Address of the Institution

電話番号 Telephone Number
宛名票
Name and Address Card

◎ 志願者は本票を学生募集要項記載の出願書類と一緒にお寺に必ず提出してください。
◎ 確室で丁寧に記入してください。
◎ 切りとり線で切り離して、そのまま提出してください。
（ホームページから用紙を入手した方は、そのまま記入してください。）

届出に関する確実な受信場所を記入してください。
場所がアパート、団地等の場合は「様方」の欄にアパート、団地名等記入してください。
※欄は記入しないでください。

◎ Applicant must submit this card with the application documents mentioned in the Admission Guidelines.
◎ Fill in this card neatly and in the block style.
◎ Detach the sheet along the perforated line and submit it.
   (If you obtained the form from the homepage, fill in it.)

Fill in the place for receiving information about entrance examination without fail.
If the above place indicates a flat or a housing complex, etc., fill in the name of a flat or a housing complex, etc. in the "c/o box".
Do not fill in the "※ box."

<table>
<thead>
<tr>
<th>受験番号 Examinee's Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>※</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>郵便番号 - 郵便番号</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>郵便番号 - 郵便番号</td>
</tr>
<tr>
<td>様方 c/o</td>
</tr>
<tr>
<td>様</td>
</tr>
<tr>
<td>Mr. / Ms.</td>
</tr>
</tbody>
</table>

左欄に、郵便番号、住所、氏名を記入してください。
Fill in postal code, current address and name in the left column.

<table>
<thead>
<tr>
<th>受験番号 Examinee's Number</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

左欄に、郵便番号、住所、氏名を記入してください。
Fill in postal code, current address and name in the left column.
入学資格審査申請書（Application for the screening for admission requirements）

私は、平成31年度群馬大学大学院医学系研究科生命医科学専攻（修士課程）入学試験を受験したいので、下記により入学資格審査をお願いします。

記

1 該当する入学資格審査
次のいずれかに該当するかについて、該当項目の番号を○で囲んでください。

(1) 学校教育法（昭和22年法律第26号）第102条第2項の規定により本大学院以外の大学院に入学した者であって、
本大学院において、大学院における教育を受けるにあたる
学力があると認めたもの

(2) 本大学院において、個別の入学資格審査により、大学
を卒業した者が同等以上の学力があると認めた者で、平
成31年3月31日までに22歳に達するもの

2 希望する専攻分野名
第1志望（  ）
第2志望（  ）

3 添付書類
本申請書に添付した書類の番号を○で囲んでください。

(1) 上記1の該当者
ア 成績証明書（出身大学（学部）の成績証明書と当該
大学院の教育課程が明記されている書類（履修手引等）
を併せて提出のこと）

イ 上記証明書（学籍中の大学院の学年が記載したもので、
入学年月日が明記されたもの、なお、大学院を修了又
は退学している者は、入学年月日が明記された書類（出
身大学院の成績証明書等）を提出のこと）

ウ 研究業績がある場合は、その業績（論文等）

エ その他の書類（  ）

(2) 上記2の該当者
ア 研究業績証明書（本項添付の用紙（様式11）により
ます。）

イ 研究業績又はその他顕著な業績がある場合は、その
業績（論文等）

ウ 最終学校（短期大学、専修学校又は各種学校等）の
卒業又は修了証明書

エ 最終学校（短期大学、専修学校又は各種学校等）の
成績証明書

オ その他の書類（  ）

裏面の履歴書も記入すること

I wish to take the entrance examination for the Course of Biomedical Sciences in Graduate School of Medicine, Gunma University in 2019 and request the screening of admission requirements under the following conditions.

1) The screening of admission requirements that fall under the applicant.
2) Desired Major Field
First choice {  }
Second choice {  }

3) Attached documents
Circle the number of the document attached to this application.

(1) Applicant who falls under the above (1)
   a. Academic transcript (faculty results and the document showing the curriculum of the faculty (e.g. syllabus))
   b. Certificate of student status (issued by the president of the university (graduate school) you are in and with the date of your entrance). If you completed or quit the graduate school, submit the document with the date of your entrance (e.g. the transcript from the graduate school).
   c. Published academic papers etc. on research achievements, if any.
   d. Other documents (  )

(2) Applicant who falls under the above (2)
   a. Certificate of Research Activities (The form attached to our admission guidelines must be used. [form-11])
   b. Published academic papers etc. on research achievements or other remarkable achievements, if any.
   c. Graduation Certificate or Completion Certificate issued by the final educational institution (including a junior college, an advanced vocational school or a vocational school, etc) from which the applicant graduated.
   d. Academic transcript issued by the final educational institution (including a junior college, an advanced vocational school or a vocational school, etc) from which the applicant graduated.
   e. Other documents (  )

The curriculum vitae on the reverse side shall also be filled in.
### Educational background (学歴)

<table>
<thead>
<tr>
<th>Name and Address of School (学校名及び所在地)</th>
<th>Year and Month of Entrance and Completion (入学及び卒業年月)</th>
<th>Duration of Attendances (修学年数)</th>
<th>Diploma or Degree awarded, Major Subject, Skipped years/levels (学位・資格・専門科目、飛び級の状況)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Education (初等教育)</td>
<td>Name (学校名)</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months (月)</td>
</tr>
<tr>
<td>Elementary School (小学校)</td>
<td>Address (所在地)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Education (中等教育)</td>
<td>Name (学校名)</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months (月)</td>
</tr>
<tr>
<td>Lower Secondary School (中学)</td>
<td>Address (所在地)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Secondary School (高校)</td>
<td>Name (学校名)</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months (月)</td>
</tr>
<tr>
<td>Higher Education (高等教育)</td>
<td>Address (所在地)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate Level (大学)</td>
<td>Name (学校名)</td>
<td>From (入学) To (卒業)</td>
<td>Years (年) and months (月)</td>
</tr>
<tr>
<td>Graduate Level (大学院)</td>
<td>Address (所在地)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total number of years of the aforementioned schooling (以上を通算した全学校教育修学年数)</th>
<th>As of April 1, 2019 (2019年 4月1日現在)</th>
<th>Years and months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Employment History (Begin with the most recent employment history, if applicable.) (職歴)

<table>
<thead>
<tr>
<th>Name and Address of Employer (勤務先及び所在地)</th>
<th>Period of Employment (在職期間)</th>
<th>Position (役職名)</th>
<th>Type of Work (職務内容)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| From                                           | To                                             |


*If the blanks above have not sufficient space to be filled in, write on another appropriate sheet and attach it.

（注）上欄に書き切れない場合には、適当な別紙に記入して添付すること。

Notes:
1. Kindergarten education and nursery school education are not included. (幼稚園・保育所教育は含まない。)
2. So-called “daigaku-yobi-kyoiku (preparatory education for university admission)” is included in upper secondary school. (いわゆる「大学予備教育」は中等教育に含まれる。)
3. If the applicant has passed the university entrance qualification examination, fill in that effect in *-1 column. (大学入試合格者) (以上を通算した全学校教育修学年数) (大学入試資格試験)に合格している場合には、その旨を *-1欄に記入すること。
4. If the so-called “grade-skipping” has been carried out, write that effect in the applicable column. "Diploma or Degree awarded, Major Subject, Skipped years/levels". (Example: Graduated in a short period of time by skipping the third year of upper secondary school) (いわゆる「飛び級」をしている場合には、その旨を該当する教育課程の「学位・資格・専門科目、飛び級の状況」欄に記載すること。

日付（Date）                                   出願者名前（Name）

出願者署名（Signature）

(2/2)
Certificate of Research Activities

Nationality: ______________________

Name: ______________________

Birth Date: ______________________

This is to certify that the above person has research history as follows.

Institution and division for which he/she worked and his/her then status:

Duration of Research: From: __________ to: __________ = (__________)
(Day) (Month) (Year) (Day) (Month) (Year) (Year) (Month)

Title and Outline of Research:

Name and Position of Academic Advisor:

Date: ______________________

Signature: ______________________

Name: ______________________

Title of Position: ______________________

Institution: ______________________

Address of Institution: ______________________

Note: A certifier shall be a head (e.g., President, Dean, or Director, etc.) of an organization. However, in the case of certifying a research history of our university graduate (including a student enrolled in our university), a supervisor may also serve as a certifier.
The above design of “大學 (kanji for university, called ‘daigaku’)” surrounded by the famous picturesque view of three carved mountains which comprise Mt. Akagi, Mt. Haruna, and Mt. Myogi and are called JOMO SANZAN symbolizing Gunma Prefecture is the emblem of Gunma University.