

ACVR Diagnostic Imaging Residency Training Program Application

This application is required for institutions desiring ACVR accreditation of a new residency training program and for institutions requesting re-accreditation of an existing program.

Before beginning the application process, all applicants should review the most recent version of the [ACVR Residency Program Essential Training Standards and Requirements](#) (RPE) document (accessed from the Essentials Homepage) in detail. Use the RPE as a reference when completing the application form, as the contents you provide herein will be evaluated by the Residency Standards and Evaluation Committee (RSEC) against the published RPE standards. This application form follows the headings of the RPE. All terms used in this application have same definitions as those in the RPE, and no information provided in the application form itself will supersede that published in the RPE. During the application review process, the Chair or Assistant Chair of the RSEC may contact the applicant for additional information or clarification.

**Note: If you wish to save your submission and complete it later, click the save button located at the bottom of the pages. You will be emailed a link to complete your form at a later date.*

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Program Summary

The Residency Director of the program is expected to be the primary applicant and contact person for this application. The Residency Director must be located at the primary training institution.

Institution Name	Université de Montréal
Residency Program Director Name	Isabelle Masseau
Residency Program Director Email	isabelle.masseau@umontreal.ca

Program Type

What type of residency program is being requested?

Traditional Residency Program

If approved, what is the proposed start date of this residency program?

Friday, July 15, 2022

Objectives

Succinctly state the objectives of the training program.

- Provide a residency program that enables successful candidates to qualify for the preliminary and certifying examination held by the ACVR
- Provide specialty training in general radiology, ultrasonography, computed tomography, magnetic resonance imaging, fluoroscopy and nuclear medicine in small-, large-, and exotic animals.
- Provide an academic program that includes residency training and clinical research experience leading to a diploma in specialized studies (or DES) and for which two scientific presentations are mandatory

- Provide candidates with possibilities of developing communication skills through clinical and laboratory teaching of senior veterinary students

Training Period

What is the total length of the training program? 48

What is the anticipated length of supervised clinical training a resident will experience during this program? 37

Will the resident(s) in this program be eligible to take the ACVR Preliminary Exam in September of their third year? Yes

What are the responsibilities of the resident(s) during non-clinical portions of the program?

The resident will be off-clinics for a total of 19 weeks to allow completion of a research project required by the academic department. The resident will also benefit from a mandatory 3-week vacation annually, in addition to a week during the holidays. Additional off-clinics time will be dedicated to board-examination preparation and attendance to specific training or events (for a total of 10 weeks) including technical training (2 weeks), nuclear medicine short course (1 week) and attending/presenting at ACVR meeting (1 week). Except for vacation, the resident is expected to work full time while off-clinics. Emergency duty including after hours and weekends is required according to the hospital service requirements for a maximum of 17 weeks per year.

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Direction and Supervision

When calculating time commitment in this section, you may consider a 100% (full time) duty schedule to consist of 48 weeks per year with 8 hours per day or 40 hours per week.

Residency Director

Please review the Residency Director requirements and responsibilities in the [ACVR Residency Program Essential Training Standards and Requirements](#) (RPE) document. Note that the Residency Director will be required to provide at least 24 weeks of clinical duty per year in primary support of residents in this program and to meet all other qualifications of a Supervising Diplomate.

Is the applicant Residency Director for this program prepared to meet these requirements? Yes

What percentage of the Residency Director's time is committed to clinical service at the primary training institution? 50

How many weeks per year will the Residency Director be on clinical service and teaching residents at the primary training institution? 23

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Additional Training Diplomates

Please review the definitions and responsibilities of [Supervising Diplomate and Supporting Diplomate](#) in the RPE document. Note that Supervising Diplomates will be required to provide at least 10 weeks of clinical duty in primary support of residents in this program, and are expected to participate in all facets of residency training. Supporting Diplomates aid in residency training, but provide support that is limited, as by modality (e.g. only works in ultrasound), time commitment (e.g. clinical duty < 10 weeks per year), or other constraints that prevent them from qualifying as a Supervising Diplomate.

Provide a copy of affiliation agreements with any diplomates that are located at an external institution (see Affiliation Agreement item at the end of this section).

Excluding the Residency Director, please list all training diplomates who will act as Supervising Diplomates of this residency program. Indicate the approximate number of hours per year each supervisor will be scheduled on clinical duty with primary support of residents and, if applicable, any specific areas of instructional responsibility (e.g. trains mostly in small animal, trains mostly in MRI, etc). If a 'Supervising Diplomate' position will be comprised of multiple radiologists, please list the cohort as a single entity or institution for this question (e.g. "teleradiologists" or private institution name)

Name: Cyrielle Finck

Hours/Year: 23 wks/year

Specific Areas and/or Limitations of Instructional Responsibility: Trains in all areas

Institution: Université de Montréal

Please list all training diplomates who will act as Supporting Diplomates of this residency program. Indicate how many hours per year each Supporting Diplomate will be scheduled on clinical duty with primary support of residents and any specific areas of instructional responsibility and/or limitations in the scope of this support (e.g. only trains residents in ultrasound, does not participate in large animal training, does not finalize imaging reports, etc).

Name: Mylène Auger

Hours/Year: 225 hours/year

Specific Areas of Instructional Responsibility: trains only in small animals

Institution: Université de Montréal

Name: Alex zur Linden

Hours/Year: 80 hours/bi-annual

Specific Areas of Instructional Responsibility: All modalities with emphasis on oncology cases; nuclear medicine

Institution: University of Guelph

In addition to ACVR/ECVDI Diplomates, the program must arrange for the resident(s) to have direct access to specialists in other areas. Please identify one member in each of the specialty colleges listed below that has agreed to support this program through clinical activity that allows regular interactions between the specialist and the diagnostic imaging residents (e.g. discussion of diagnostic work up, imaging findings, or patient outcomes, and/or participation in interdisciplinary rounds, etc). Indicate whether the specialist is located on-site at the primary institution at an external institution. Provide a copy of affiliation agreements with any non-ACVR/ECVDI diplomates that are located at an external institution (see Affiliation Agreement section at the end of this application). Upon completion of this application, the below individuals will receive an email requesting acknowledgement of their support of your residency program.

ACVIM Member Name	Marilynn Dunn
ACVIM Member Institution	Université de Montréal
ACVIM Member Email	marilynn.dunn@umontreal.ca
ACVS Member Name	Dominique Gagon
ACVS Member Institution	Université de Montréal
ACVS Member Email	dominique.gagnon.2@umontreal.ca
ACVP Member Name	Christian Bédard
ACVP Member Institution	Université de Montréal
ACVP Member Email	christian.bedard@umontreal.ca

Upload any affiliation agreement(s) with Supervising Diplomates, Supporting Diplomates, or Diplomates in other specialties that are located at external institutions. (see Affiliation Agreement section at the end of this application.) Refer to the RPE document for an explanation of what information should be included in such agreements.



Letter Oncology Imaging Guelph.pdf

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Resident:Supervising Diplomate Ratio

The number of residents in the program cannot exceed twice the number of Supervising Diplomates **on-site**. Remote Supervising Diplomates will not count when calculating the maximum residents allowed in a given program.

What is the maximum number of imaging interns you will have enrolled in this training program at any given time?

1

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Facilities

Review the Facility Requirements listed in the RPE document. Note also that residents should have opportunities to be involved with image acquisition and protocol set-up.

Does this residency training program provide on-site access to modern equipment for the following modalities?

Digital or Computed Radiography	Yes
Fluoroscopy	Yes
Ultrasound with Doppler Capability	Yes
MRI	Yes
Fan-beam CT	Yes
Nuclear scintigraphy	Yes

Briefly describe how this program meets the facility requirements, including the specific type of CT and MRI units available. Explain how your program will train residents in modalities for which equipment is not located on site, providing affiliation agreements if applicable. (see Affiliation Agreement item at the end of this section)

Facilities include the following:

Radiography: Companion and Exotics Animal Hospital

Two general purpose x-ray rooms in small animal radiology,

Room 1. Siemens Iconos max 600 mAs and 150 kVp generator with digital fluoroscopy capabilities.

Room 2. 300 mA and 125 kVp Summit InnoVet Select unit.

AGFA DX-M CR with 14x17in and 10x12in CR cassettes

Radiography: Large Animal Hospital

Large animal x-ray room is equipped with a max 800 mAs and 150 kVp Siemens generator with a column-mounted Bucky.

Portable generator MinXRay9030

AGFA Retrofit DR

Fluoroscopy: GE9800 C-Arm with vascular options
Mobile radiography: Philips Practix Convenio

Ultrasonography:

Ultrasound room with a Toshiba Aplio 400 unit equipped with 5 probes up to 18 MHz and multiple scanning modes. GE Logic 7 and Aloka SSD 1700 are available for equine cases.

Computed Tomography:

GE Light Speed 16 slice helical CT scanner with usual accessories and a customized table for large animal scanning.

Magnetic Resonance Imaging:

Short-bore GE HDxt 1.5 Tesla MR unit and a customized table for equine extremities.

Nuclear Medicine:

IS2 digital gamma camera and Mirage software (currently non functional)*

* Until the gamma camera is repaired, or in the event of a needed replacement, the resident will receiving training in nuclear medicine at the University of Guelph under the supervision of Dr. Alex zur Linden

PACS: Fujifilm Synapse5 v5.7.200

Remote access via Synapse Mobility

Synapse 3D, FujiFilm for advanced application tools

Four workstations equipped with medical grade Barco Coronis Fusion MDCC-6530 monitors

Film and electronic teaching files that cover a large variety of small, large and exotics cases are available.

Please describe how residents will gain experience in image acquisition and protocol set-up for each of these modalities (excluding nuclear medicine).

The resident will be trained in general radiology, CT and MRI acquisition protocol and set-up during a two-week period at the start of the residency program with refresh training at any time during the residency if needed. The resident will then routinely (every other week from September to May in alternance with the other resident or specialized intern) participate in senior student laboratories on radiographic study acquisition and performance of ultrasound examinations. The resident will acquire him/herself ultrasound images throughout the residency when on ultrasound duty.

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Clinical Resources and Training Content

Review the clinical resource and training content requirements listed in the RPE document

What is the average annual caseload at the primary institution over the past 3 years? This number will include all patient visits whether or not they contribute to the annual imaging caseload. 16101

What is the average annual imaging caseload at the primary institution over the past 3 years? Each body region imaged for a given patient (e.g. thorax, abdomen, spine, etc) will count as a single study.

8123

What is the average annual imaging caseload at the primary institution over the past 3 years in the following categories?

Small animal radiology 3995

Large animal radiology 2347

Abdominal ultrasound 1321

Non-abdominal ultrasound 24

Computed tomography 319

Magnetic Resonance Imaging 141

Nuclear scintigraphy 10

Other (Specify) 124 fluoroscopy/contrast procedures

Indicate the approximate species breakdown of the imaging caseload at the primary institution in the following categories:

Small animals (canine, feline): 76

Large animals (equine, bovine, porcine, etc.): 15

Avian, Exotic, and Wildlife animals: 9

Which of the following types of imaging cases will the resident(s) have direct, on-site exposure to at the primary institution during the residency program?

Echocardiography Yes

Large animal ultrasound Yes

Nonabdominal small animal ultrasound (i.e. cervical, musculoskeletal) Yes

Food/fiber animal imaging Yes

Exotics imaging Yes

Teleradiology/Referral imaging No

Explain how the resident(s) in this program will gain experience in any of the above types of imaging cases that are NOT available at the primary institution. Provide affiliation agreements, if applicable. (see Affiliation Agreement item at the end of this section).

Referral imaging is not currently offered at the institution since several cases are sent to teleradiology companies. However, the residents are frequently exposed to teleradiology reports during follow-up examinations.

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What percentage of the total imaging caseload at the primary institution results in a written imaging report being generated by either the residents or the training radiologist diplomates in this program? 60

If < 99%, please provide a brief explanation and account for this when calculating the number of cases that each resident will interpret.

The resident is either assigned to 1) general radiology or advanced imaging (CT, MRI, scintigraphy, contrast procedures; Year 2-4) or 2) ultrasound duty. 100% of ultrasound examinations are performed by the resident or training diplomates and they generate all written reports. For the general radiology case load, priority is given to small animals, exotics and large animals (in that order) and to cases for which verbal interpretation is given. Cases for which a report has not been generated within 48 hours of acquisition is sent out for teleradiology. When on advanced imaging duty, the resident generates 100% of the imaging reports.

What percentage of the preliminary reports generated from the imaging caseload are initially produced by the resident(s) in this program? 100

Does this institution concurrently support the training of diagnostic imaging interns?

Yes

If yes, indicate the maximum number of imaging interns the institution will train concurrently, what percentage of the preliminary reports generated from the imaging caseload will be initially produced by the intern(s), and how this affects the resident imaging report caseload.

The maximum number of specialty intern would be 1 every other year. The intern would generate reports for the caseload not covered by the residents and during the resident's off clinic times. Since several imaging studies are currently outsourced, this should not affect the residents' caseload.

What percentage of resident-generated reports are reviewed by training diplomates prior to finalization of the report? 100

What is the average turnaround time for resident-generated preliminary reports to be finalized by training diplomates?

It varies from within 24 hours to 7 days.

What percentage of all imaging reports (resident and diplomate generated) is finalized and available to requesting clinicians within 48 hours after the exam is submitted for radiologist consult? 75

Please describe how after-hours/weekend/holiday cases are handled at the primary institution. How does this affect resident-reported imaging caseload?

Residents are on after-hours/weekend duties for 1/3 weeks on an alternating basis and for no more than 17 weeks per year according to the institution's guidelines. After-hours duty consists of phone availability up to 9 pm. Weekend duties consist of 10 am to 1 pm on-site availability for ultrasound examinations and imaging consultation in which case, imaging report is generated. The resident is expected to be available for no more than 7 consecutive days during the holidays but is typically required to be on site only on those days that a faculty is present.

For each category below, calculate the approximate number of cases that a single resident will interpret at the primary institution with radiologist feedback during the course of the entire residency program. These numbers should be calculated using the annual imaging caseload adjusted to include only those with written reports generated by the residents. In general, this number should then be divided by the total number of residents in a program during a given year.

If external rotations for the resident(s) are employed to increase the resident caseload in any given category, please be sure to upload affiliate agreements that include the expected number of reports that residents can expect to generate (with radiologist feedback) for cases in those categories.

Small animal radiology	4994
Large animal radiology	939
Abdominal ultrasound	2616
Non-abdominal ultrasound	30
Computed tomography	577
Magnetic resonance Imaging	254
Nuclear scintigraphy	15
Other (specify)	20 (cardiology)

How many ultrasound exams will a single resident perform with radiologist supervision and feedback during the course of the entire program? Scans for which the resident writes a report but does not acquire images are excluded. 2616

Do residents in this program have ample hands-on training and practice opportunities to become proficient in the performance of ultrasound guided fine needle aspirates and biopsies?

Yes

Please indicate whether this training program includes formal courses in any of the following topics:

Physics of Diagnostic Imaging

Yes

Radiobiology

Yes

Nuclear Medicine

Yes

Ultrasonography

Yes

Computed Tomography

Yes

Magnetic Resonance Imaging

Yes

Other

Yes

Briefly describe the formal courses that are available for the resident(s) in this program by indicating the institution, course title, course number, and credit hours as well as any other relevant information. For any topics for which formal course work is not provided for the resident(s), please explain how educational objectives in these topics will be met.

Topic Course number Units
Radiobiology: MEV 6681 A
The Physics of: 3 units
Diagnostic Radiology: MEV6681 A/B and MEV 6680 A/B/C
Nuclear Medicine: MEV6681 A/B and MEV 6680 A/B/C
Ultrasonography: MEV6681 A/B and MEV 6680 A/B/C
CT: MEV6681 A/B and MEV 6680 A/B/C
MRI: MEV6681 A/B and MEV 6680 A/B/C

MMV 6682 Research Seminars (3 units)
MMV 6670 Scientific communication (3 units)
PTM 6601 Applied statistics (3 units)

Do residents have access to a majority of the written pathology reports that are generated from patients included in this imaging caseload?

Yes

Will the resident(s) in this program attain an advanced degree (MS, PhD) at the conclusion of the program?

Diploma in specialized studies (DES) (all residency and internship programs are academic programs)

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Research Environment

Review the Research Requirements listed in the RPE document.

Over the last five years, what is the average number of peer reviewed publications on which the training diplomates (Supervising and Supporting diplomates) of this program are included as authors? (total number of publications in last 5 years among all training diplomates divided by the number of training diplomates) 6

How many peer-reviewed publications are expected of a resident completing the program? 1

If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting? 1

Briefly describe if/how residents are encouraged to engage in investigative work and what mechanisms are in place for training diplomates to support this work.

Research work is a mandatory requirement for completion of the academic program. The resident must give three presentations during the residency program including two at the university as part of the residency seminar course and one at a national (OMVQ, AMVPQ, CVMA) or international (ACVR, ACVIM, or ACVS meetings) scientific conference (pre-approved by the residency director). Internal funding is available for residents through submission of a research proposal to the Fonds du Centenaire. Internal fundings is also available for residents under the supervision of a faculty through application of a research proposal to various funds dedicated to small animals, equine and farm animals.

Educational Environment

Review the Educational Environment expectations listed in the RPE document.

Please list and enumerate the formal presentations that are expected of each resident during the course of their training. In general, didactic lectures, departmental seminars, scientific presentations, Continuing Education presentations, and similar are considered "formal". Informal topic rounds, journal club, small group teaching (like student rounds), student labs, and similar events should not be included.

Two departmental seminars
One national or international presentation (abstract format)

Briefly describe the type and extent of teaching opportunities that are provided to the resident throughout the training program.

Residents are encouraged to lecture junior veterinary students as part of the diagnostic imaging course in the form of clinical cases presentations during the third year of the DVM

Residents participate in senior veterinary student teaching rounds and laboratories
Residents are encouraged to teach senior veterinary students and house officers from other services during their clinical duty when an opportunity arises

Briefly describe the nature and scope of the teaching file available to the resident(s) in this program and how it is maintained/updated.

Approximately 500 cases (both small and large animals) on plain films with reports, including some contrast studies (50)
Web-based electronic teaching file with nearly 700 cases in small and large animal radiology
All presentations (i.e. skull radiography) made by radiology faculty at continuing education conferences are also available on a computer in the radiology reading room.
A logbook and accompanying CD of interesting alternate imaging cases (large and small animal CT and scintigraphy)
Neurology file: log of MRI and CT reports with pathology and surgical reports (150 cases)
In the last five years, interesting teaching cases (>200) have been continuously added on a shared spreadsheet with follow up cytology/biopsy/necropsy reports and surgery pictures.
Private and public teaching files are also directly available on the DICOM viewer software.

How many Known Case Conferences are conducted annually? 12

Describe the nature and frequency of resident rounds ("other educational events") planned for this program. You may upload an example schedule with the general program schedule that is requested at the end of this application.

Journal clubs are held every Monday morning in which residents present 4-5 peer-reviewed journals as a preparation for boards. Student teaching rounds and laboratories are held Tuesday, Wednesday and Thursday mornings during the academic year. Friday mornings are dedicated to either interesting/challenging cases rounds in which faculty and residents participate, to neurology/diagnostic imaging rounds in collaboration with neurology faculty and residents, or to Physics course (Fall semester - every other year).

The resident participates in KCC during off clinic time.

The faculty on clinical duty prioritizes finalizing residents' preliminary reports and supervision of ultrasound examinations or other procedures (such as CT-guided biopsies). Residents with questions regarding imaging interpretation of a case are encouraged to consult immediately with the faculty on clinic duty.

Upon revision of preliminary reports, in the event of disagreement on the interpretation of findings or if findings are missing that would impact the diagnosis or further steps taken for a patient, the faculty immediately reports it to the resident who informs the attending veterinarian.

Describe how the resident(s) in this program will attain direct and consistent medical library access and/or how they will access research tools and medical literature including the suggested references listed in the ACVR Preliminary Examination study guide.

The veterinary medical library is directly on campus (100 feet away). The main campus in Montreal (35 miles from the college) has a medical school and library. A large number of electronic resources are available and articles and books can be directly ordered from the medical school library (approximately a 48hour turnaround). Additionally, most electronic periodicals are now available online through the library web site. Off campus access to electronic journals is provided through Proxy or VPN.

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Evaluation and Protection of Residents

For existing programs, list the names, email contact information, and start/end dates of your current residents.

Céline Giron, céline.giron@umontreal.ca, July 2020/July 2024

Did all of your current residents adequately complete the last 6 months of training? Yes

List the current members of the resident review committee.

Cyrielle Finck
Aude Castel
Isabelle Masseau

Describe the internal mechanisms in place at your institution to protect the resident(s) if personal or organizational conflicts arise. Include the management hierarchy for residents and procedures by which residents would report workplace misconduct.

In the event of a conflict between a resident and other staff or faculty member, the resident is encouraged to seek advice and support from his/her residency committee or directly to the Department Chair and Human Resources. Each resident shall meet with his/her residency committee within 3 months of the start of the residency and then, at least once a year to evaluate his/her progress both at the clinical and research levels. If necessary, additional meetings may be held at the request of the resident or committee members including the Department Chair.

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Appendix

Please provide the following information regarding preliminary and certifying board exam pass rates for residents in your program over the past five years.

Preliminary Board Exam Pass Rate

2020

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple Attempts: 0

Number of Residents That Have Not Passed: 0

2019

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2018

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2017

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2016

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

Certifying Board Exam Pass Rate

2020

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2019

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2018

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2017

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2016

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

Program Schedule

Upload a schedule for your residents that outlines their clinical and non-clinical work over the course of the residency program. This may be a master schedule or duty roster for your entire radiology section, if desired. If available, an example weekly or monthly rounds schedule can also be included.

Program Schedule



Supervised clinical training.pdf

Affiliation Agreements

Upload digital copies of any affiliation agreements that have not been included elsewhere in this document. Refer to the RPE document for an explanation of what information should be included in such agreements.