



ACVR 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	Southern Veterinary Imaging in collaboration with Animal Referral Centre (ARC) of Auckland
Residency Program Director Name	Rachel Pollard , Dr
Residency Program Director Email	repollard3110@gmail.com

Program Type

What type of residency program is being requested?

Alternative Residency Program

If this is an alternative residency program, please name the specific individual for whom the residency program has been designed.

Gordon Lye BVSc, Grad Cert SA Ultrasound

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

Wednesday, September 1, 2021

Objectives

Succinctly state the objectives of the training program.

The specific objective of this alternative track residency training program application is to provide high-quality, in-depth clinical training in veterinary diagnostic imaging to Dr. Gordon Lye. The ultimate goal is for Dr. Lye to meet eligibility requirements and sit the examination for Board Certification with the ACVR. No formal post-graduate degree is expected to be undertaken in the duration of the program (36 months).

Southern Veterinary Imaging (SVI) is initiating its first diagnostic imaging residency in collaboration with the Animal Referral Centre (ARC) of Auckland. The goal of our training program is to train a veterinary radiologist to be proficient in the use of current imaging techniques for the examination of clinically ill animals with a complete understanding of radiation safety and physics included. An introduction to research techniques and access to annual congresses will augment the clinical training. Limited formal training programs currently exist within New Zealand due to a lack of radiologists. This program will help grow the discipline of veterinary diagnostic imaging on an international scale however, is not anticipated to meet the criteria for a Standard Residency Program. More specifically, Southern Veterinary Imaging does not intend to offer a residency position on a routine basis. Rather, residency positions will be on an individual basis as suitable candidates and caseload dictates.

Training Period

What is the total length of the training program? 36

What is the anticipated length of supervised clinical training a resident will experience during this program? 30

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

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

During the non-clinical portions of the resident's training, he will be expected to be studying for the preliminary and certifying examinations. This will include working through practice examination questions, studying case files and attending online coursework in medical imaging. In addition, the resident will be expected to participate in at least 2 research projects and be primary author on at least 1. Data collection, analysis and manuscript preparation will occur during the non-clinical scheduled time. Vacation (4 weeks per year) will also constitute a portion of the non-clinical time.

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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?

24

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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 section at the end of this application).

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: Dr. Angela Hartman

Hours/Year: Dr. Hartman will dedicate 400 hours per year to resident training in the areas of responsibility including small animal radiology, ultrasound, CT and MRI

Specific Areas and/or Limitations of Instructional Responsibility: Proficient in small animals (X-ray, Ultrasound (cardiac, abdominal, musculoskeletal, neck), CT &&& MRI). Equine CT primarily, occasionally equine XR. Involved in teaching and training of resident in all aspects.

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: Sarah Pemberton (ECVDI - Small Animals)

Hours/Year: 250 hours per year

Specific Areas of Instructional Responsibility: Dr Pemberton will be contracted by Animal Referral Centre to dedicate 6 hours per week throughout the course of the residency via video conference. The focus will be on daily rounds, journal club and KCC.

Name: Joon Seo (ACVIM - Cardiology)

Hours/Year: 100 hours per year

Specific Areas of Instructional Responsibility: Echocardiography training of the resident will occur with direct supervision. Dr. Seo is employed full-time at ARC as a cardiologist.

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. Upon completion of this application, the below individuals will receive an email requesting acknowledgement of their support of your residency program.

ACVIM Member Name	Sarah Hill, Dr
ACVIM Member Institution	Animal Referral Center
ACVIM Member Email	sarah.hill@arcvets.co.nz
ACVS Member Name	Magen Shaunessy , Dr
ACVS Member Institution	Animal Referral Center
ACVS Member Email	magen.shaughnessy@gmail.com
ACVP Member Name	Michael Hardcastle, Dr
ACVP Member Institution	Gribbles Auckland
ACVP Member Email	michael.hardcastle@gribbles.co.nz

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.)



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Resident:Supervising Diplomate Ratio

The number of residents in the program cannot exceed twice the number of ACVR/ECVDI Supervising Diplomates on-site.

What is the maximum number of residents 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	<input type="button" value="Yes"/>
Fluoroscopy	<input type="button" value="Yes"/>
Ultrasound with Doppler Capability	<input type="button" value="Yes"/>
MRI	<input type="button" value="No"/>
Fan-beam CT	<input type="button" value="Yes"/>
Nuclear scintigraphy	<input type="button" value="No"/>

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 section at the end of this application.)

Radiographic equipment:

Radiography Unit:

- XRPAD2 4336 HWC-M DR Wireless X-Ray Detector
- RadiForce MX242W eizo global 24 inch LCD acquisition monitor

- DICOM connection to PACS, access to HIS

C-arm: Ziehm Vision Image intensifier

- DICOM connection to PACS

All standard radiation safety and small animal imaging equipment is available (lead screen and protective clothes like aprons and coats, lead thyroid collars, protective lead gloves, protective eyewear, electronic dosimeters, side markers, sandbags, foam wedges, patient positioners, contrast media, etc.).

Ultrasonographic equipment:

Ultrasound machine 1: Philips EPIQ 7

- Multifrequency transducers:
 - o Microconvex 8-5 MHz
 - o Linear 12-3 MHz
 - o Phased array 5-1 MHz
 - o Phased array 8-3 MHz
 - o Phased array 12-4 MHz
- DICOM connection to PACS, access to HIS

Ultrasound machine 2: Esaote MyLab Seven

- Multifrequency transducers:
 - o Microconvex 9-4 MHz
 - o Linear 13-3 MHz
- DICOM connection to PACS, access to HIS

The ultrasound table is suitable for cardiac ultrasound examinations. Equipment for positioning and interventional ultrasound is available.

CT equipment:

Siemens SOMATOM go.Up. DICOM connection to PACS.

- 64 slice Multi-Detector row CT
- DICOM connection to PACS, access to HIS

ARC runs an annual average of 50 MRIs annually and has always had a good working relationship with a local medical imaging facility, Ascot Radiology. No formal affiliation agreement exists for this. MRI equipment: Ready access to GE SIGNA™ Architect - 3.0T MRI (5 km away at Ascot Radiology). Several MRI-safe positioning aids available. Multiple coils for examination of different body parts.

External rotations through the Diagnostic Imaging and Neurology departments at the University of California, Davis Veterinary Medical Teaching Hospital have been arranged to augment exposure to MRI (1.5 T GE unit) and nuclear imaging (PET and planar scintigraphy). Given the annual caseload of the UCD VMTH, 4 weeks in the CT/MRI/nuclear medicine area should provide exposure to approximately 70/50/20 cases respectively along with access to case files. An additional 4 weeks with the UCD neurology service should provide access to approximately 40 more MRI examinations.

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Clinical Resources

Review the clinical resource 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. 23996

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. 7463

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

Small animal radiology 6300

Large animal radiology 0

Abdominal ultrasound 860

Non-abdominal ultrasound 40

Computed tomography 185

Magnetic Resonance Imaging 48

Nuclear scintigraphy 0

Other (Specify) 30 (LA studies via teleradiology)

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

Small animals (canine, feline): 97%

Large animals (equine, bovine, porcine, etc.): 2%
(via teleradiology)

Avian, Exotic, and Wildlife animals: 1%

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 No

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

Food/fiber animal imaging	No
Exotics imaging	Yes
Teleradiology/Referral imaging	Yes

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 section at the end of this application.)

The resident will train at externships in University California, Davis to round out the areas not available at the primary institution. Such as 4 weeks of nuclear medicine, CT/MRI with the Radiology department, 4 weeks with the Neurology department for additional MRI exposure and 2 weeks with Pathology. Agreement contracts will be attached for all externships.

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Training Content

Review the Training Content requirements listed in the RPE document.

What percentage of the total imaging caseload at the primary institution results in a report written by the resident(s) and/or training diplomates in this program? 97

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

The resident will be responsible for generating at least 80% of the imaging reports over the course of each day and 100% of reports will be formally rounded upon at days end with finalization by the radiologist to be performed onsite or remotely as needed. Caseload will be augmented by teleradiology cases as needed for teaching purposes. The outstanding percentage is due to the practice being 24/7 with an emergency department that will often require urgent reports in the middle of the night. Such urgent cases will be sent through to external teleradiology services.

What percentage of the preliminary reports generated from the imaging caseload are initially produced by the resident(s) in this program? 80

Does this institution concurrently support the training of diagnostic imaging interns? No

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?

Within 24 hours. The resident will be responsible for generating at least 80% of the imaging reports over the course of each day and 100% of reports will be formally rounded upon at days end or the following morning with finalization by the radiologist to be performed onsite or remotely as needed. Caseload will be augmented by teleradiology cases as needed for teaching purposes.

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? 100

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	5256
Large animal radiology	72
Abdominal ultrasound	2064
Non-abdominal ultrasound	96
Computed tomography	444
Magnetic resonance Imaging	200
Nuclear scintigraphy	20
Other (specify)	20 (exotics-teleradiology)
How many ultrasound exams will a single resident perform with radiologist feedback during the course of the entire program? Scans for which the resident writes a report but does not acquire images are excluded.	2160

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

Physics of Diagnostic Imaging

Radiobiology

Nuclear Medicine	<input type="text" value="No"/>
Ultrasonography	<input type="text" value="No"/>
Computed Tomography	<input type="text" value="No"/>
Magnetic Resonance Imaging	<input type="text" value="No"/>
Other	<input type="text" value="No"/>

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.

The resident will attend the University of California, Davis School of Medicine imaging physics course held yearly in Davis, CA. This course covers all aspects of imaging physics and radiobiology including radiation physics, physics of diagnostic radiology, ultrasonography, nuclear medicine, computed tomography, and Magnetic Resonance Imaging. The course is tailored for medical and veterinary residents of diagnostic imaging. This will be presented by Dr. Anthony Seibert, PhD (Department of Radiology) the course duration is 6 weeks.

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

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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) 8

How many peer-reviewed publications are expected of a resident completing the program? 2

If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting? 0

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.

There is no graduate degree combined with this residency. The resident will be expected to participate in 2 research projects (prospective or retrospective) over the course of the 3-year residency. This will include hypothesis generation, study design, data gathering, data analysis, and manuscript preparation under the guidance of one of the supervising radiologists or other specialists at Southern Veterinary Imaging/ARC. The resident will act as first author on at least one of the research papers and primary or supporting author the other.

Educational Environment

Review the Educational Environment expectations listed in the RPE document.

How many formal presentations (e.g. didactic lectures, departmental seminars, scientific presentations, Continuing Education conferences, etc) are expected of each resident during the course of their training? In general, informal topic rounds, journal club, small group teaching, student labs, and similar events should not be included. 7

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

The radiologists employed by SVI have teaching contracts at several universities for which they provide a veterinary imaging curriculum remotely (digdiva.com). The resident will be expected to deliver at least 1 lecture per year at the veterinary student level. In addition, the resident will be encouraged to provide imaging oriented continuing education lectures to local veterinarians at least 1 time per year. The resident will be expected to present the results of his first-authored research manuscript at the ACVR annual scientific meeting.

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

Dr. Pollard has an extensive archive of known cases including 200+ ultrasound, radiographic and radiographic contrast studies. In addition, the resident will have access to the documented teaching file universally available through Dr. Zwingenberger's website, Veterinary Radiology. CT, MRI and nuclear medicine cases will be available through collaboration with the University of California, Davis and the externships performed there.

How many Known Case Conferences are conducted annually? 24

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?

Resident level membership in the ACVR shall provide access to the Veterinary Radiology and Ultrasound journal. Dr. Pollard has access to the University of California, Davis online library and will provide the resident with access to the necessary journal and online reference materials. The resident will be given access to the most recent versions of Veterinary Computed Tomography, The Textbook of Veterinary Internal Medicine, Veterinary Diagnostic Radiology, the Atlas of Small Animal CT and MRI, Veterinary Diagnostic Ultrasound and other relevant textbooks.

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Evaluation and Protection of Residents

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

No current residents

List the current members of the resident review committee.

- Rachel Pollard (program director/resident supervisor)
- Angela Hartman (resident supervisor)
- Sarah Pemberton (resident supervisor)
- Karl Mathis (ARC director)
- Fiona Park (ARC managing director)

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.

The resident will be evaluated through an in person meeting with the residency supervisor every 6 months during the 3-year training program. A screen shot of the example type of online evaluation form is included and all of the topics will be covered at each evaluation. The annual evaluation results will be sent to the credential committee as per policy.

ARC has a standardized policy to protect all staff. This includes informing the human resources manager, and/or speaking directly to the directors. ARC also has engaged the services of the Employee Assistance Program (EAP). EAP provides access to a 24/7 online and telephone help services for all employees. The EAP can also provide an external support person to aid in mitigation during meetings.

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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

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0Number 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



Program Description ACVR September 2021....

Affiliation Agreements

Upload digital copies of any affiliation agreement(s) in place for the following:

External training diplomates (supervising, supporting); Agreement letters should include a statement on the scope of their resident training duties.



ARC Pathology_Affiliation_Agreement.docx.pdf



Sarah_Pemberton_Affiliation_Agreement_AC...

External rotations or remote institutional affiliations used to supplement resident imaging caseload numbers, species variety, modalities, or study types. Agreement letters should include the scope of training and the amount of time the resident will be training with the affiliate institution. If affiliations are required to support resident caseload numbers in any core modality/category (radiology/fluoroscopy, CT, MRI, or US), agreement letters should include the expected number of reports that



Neurology-externship.docx



Pathology-externship.docx

the individual resident(s) can expect to generate (with radiologist feedback) for cases in those categories over the course of the external rotation or agreement.



UCD-Radiology-externship.docx



Wildbase-externship.docx