



Dear Applicant,

Thank you for showing an interest in the Advanced Radiotherapy Consulting, Inc (ARC) Medical Dosimetry School (Remote). ARC has recognized the need for an intensive Medical Dosimetry School in the U.S. This Satellite Program is one-year in duration and follows the training guidelines recommended by the *AAMD*. We will accept 20 students and three alternates from each one-year session. ARC's Administrative Director, Natalie Will, will provide guidance on living accommodations.

Enclosed you will find:

- Summary of the Program
- Student Application
- Student Reference Sheets
- Facility Checklist
- Frequently Asked Questions

I welcome you to learn more about ARC by visiting the webpage at www.arcphysics.net. ARC is a clinically based medical physics company that specializes in training, physics program implementation, and specialty services implementation: IMRT, CT Sim, 3D Treatment Planning, HDR Brachytherapy, LDR Brachytherapy, Vascular Brachytherapy, Stereotactic Radiosurgery, and Oncology Imaging.

The application process is as follows:

	<u>Feb. Course</u>	<u>June Course</u>	<u>Aug. Course</u>	<u>Oct. Course</u>
Application Due:	Jan. 02, 09	May 01, 09	July 03, 09	Sept. 04, 09
Students Notified of Acceptance:	Jan. 12, 09	May 11, 09	July 13, 09	Sept. 14, 09
1 st Day of Stage 1	Feb. 02, 09	June 01, 09	Aug. 03, 09	Oct. 05, 09
Last Day of Stage 1	Feb. 27, 09	June 26, 09	Aug. 28, 09	Oct. 30, 09
Program Completed	Feb. 2010	June 2010	Aug. 2010	Oct. 2010

I look forward to receiving your application.

Brent D. Murphy, MS, DABR
 Certified Medical Physicist
 President, ARC-Education
 President, ARC-IMRT

Program Summary

Advanced Radiotherapy Consulting is a specialized group of Medical Physicists and Medical Dosimetrists who provide a variety of services to include: Education Courses, Professional (Consulting), Specialty Services, Diagnostic Services, and Equipment Fabrication. A Profile of ARC can be found on the webpage at www.arcphysics.net.

The didactic portion of the school will be held at The Center for Continuing Education in McKenna Hall at The University of Notre Dame in South Bend, Indiana and The Center for Cancer Care at Goshen General Hospital in Goshen, Indiana. The Center for Cancer Care at Goshen Hospital is a Comprehensive Cancer Care Center offering the following services: Surgical Oncology, Medical Oncology, Radiation Oncology, and a Full Array of Ancillary Services. The didactic portion of the school will be housed from the Center of Cancer Care at Goshen General Hospital and The University of Notre Dame. Goshen is located in central Northern Indiana.

The program follows the guidelines of the AAMD. The program agenda is listed below.

Minimum: 1700 clinical hours & 300 didactic / lab / module hours.

ARC Dosimetry School is sectioned off into three stages to meet the above criteria:

Stage 1: Didactic Training @ Goshen & Note Dame	Wks 1-4	200 hrs
Stage 2: Clinical Rotation 10 months	Wks 5-50	1700 hrs Clinical
Didactic Training	Wks 6-50	100 hrs
Stage 3: Didactic Training	Wks 51-52	40 hrs

Stage 1: Stage 1 is an intensive Medical Dosimetry Boot Camp. Failure to pass Stage 1 will result in immediate removal from the program. A summary of Stage 1 is attached.

Stage 2: Stage 2 is a 10 month clinical rotation at the Sponsoring Facility (Hospital or Clinic). The student is expected to participate at the level established by the facility. The school takes no responsibility for the individual. The student should be supervised by a Medical Physicist and a Radiation Oncologist.

During the 2nd stage, the student will be responsible for school work which includes: Case presentations, homework assignments, plan reviews, labs, and other projects that will fulfill the requirements of the AAMD guidelines.

The 2nd stage will require the student adhere to the course schedule. Students should be allowed 5-10 hours per week to meet the didactic needs of the program. Failure to do so will result in notification of the Sponsoring Facility.

Stage 3: Stage 3 is a capstone review with examination and hands on demonstration of competency. Failure to pass Stage 3 of the program will result in assignment of additional work that will be determined on an individual basis.

Program Content: This program is very *clinically oriented*. Students will be trained to meet the criteria necessary to sit for the CMD boards after one year of additional experience and trained to meet the criteria of a clinically responsible medical physicist in the hospital setting. The job responsibilities for a medical dosimetrist are clearly outlined in the AAMD webpage, www.aamd.org.

Tuition: \$ 11,500

Tuition Schedule

A non-refundable deposit of \$1,000 is required to reserve a seat once the applicant has been accepted.

If a student fails Stage 1, a 50% re-imbusement will be granted. When students enter Stage 2, there is no re-imbusement.

Tuition includes the training course, 1 course manual, 1 physics book (Khann), and 1 dosimetry book (Bentel).

Stage 1: Day 1-20

- 1: Basic Radiation Properties / Radiation Biology & Radiation Delivery
 - 2: Tissue Tolerances / Prescription Doses / DVHs
 - 3: Conventional Simulation & CT Simulation Basic
 - 4: Photon Dosimetry / Hand Calculations / Electron Dosimetry
 - 5: CT Simulation & Treatment of Prostate Cancer
 - 6: CT Simulation & Treatment of Brain Cancers
 - 7: CT Simulation & Treatment of Head & Neck Cancers
 - 8: CT Simulation & Treatment of Breast Cancer
 - 9: CT Simulation & Treatment of Abdomen Cancers
 - 10: Ct Simulation & Treatment of GYN Cancers
 - 11: CT Simulation & Treatment of Extremities
 - 12: Treatment Planning / Plan Review / Hand Calcs
 - 13: Treatment Planning / Plan Review / Hand Calcs
 - 14: Treatment Planning / Plan Review / Hand Calcs
 - 15: Treatment Planning / Plan Review / Hand Calcs
 - 16: Treatment Planning / Plan Review / Hand Calcs
 - 17: Chart Checks / Recordkeeping
 - 18: Electron Treatments
 - 19: Brachytherapy Introduction: LDR Prostate / HDR
 20. Physics QA & Radiation Safety
- Evening Labs:
1. Monthly Physics QA
 2. Accelerator Operation
 3. CT Sim & Immobilization

Hosting Facility Checklist

Application Process

1. Student completes application
2. Student References are completed
3. Hosting Facility Agreement signed
4. Letter from Medical Physicist signed
5. Letter from Radiation Oncologist signed
6. \$25 Application Fee enclosed

Applicant Accepted for School

7. Student housing coordination's arranged
8. Current medical immunizations and recent TB test results sent to ARC.

Applicant Enters Stage 2: Clinical Rotation at Hosting Site

9. Email account established for student
10. Monthly progress reporting in place (ARC provides)
11. Responsibilities of student identified

Applicant Enters Stage 3: Clinical Review & Testing

12. Clinical testing proctored

Program Completion & Certificate of Completion Awarded

**Memorandum of Understanding
Remote Dosimetry School / Junior Physics Program
Sponsoring Facility**

**Radiation Oncologist & Overseeing Medical Physicist
Responsibilities**

Radiation Oncologist

The Radiation Oncologist(s) identified to oversee the work of the physicist / dosimetrist will:

1. Actively support the didactic program of the course.
2. Allow / Encourage the student to participate in Film Reviews / Tumor Boards.
3. Provide clinical guidance to the student on case presentations and labs as necessary.
4. Evaluate and provide feedback to the student on the student case presentations.
5. Sign off on Student Log for satisfactory work performed.
6. Contact the ARC Program Director in the event of any substandard work.

Medical Physicist

The Medical Physicist(s) identified to oversee the work of the physicist / dosimetrist will:

1. Actively support the didactic program of the course. The Medical Physicist is encouraged to expand on the student's modules and challenge the student with subsequent questions.
2. Allow / Encourage the student to participate in Linac Monthly calibrations, and other Radiation Oncology QA programs.
3. Provide clinical guidance to the student on case presentations and labs as necessary.
4. Evaluate and provide feedback to the student on the student case presentations.
5. Supervise the work of the dosimetrist / physicist.
6. Sign off on any appropriate work as required by the State or general practice guidelines.
7. Sign off on Student Log for satisfactory work performed.
8. Contact the ARC Program Director in the event of any substandard work.

Medical Dosimetry School Selection Criteria and Admissions Requirements

Admissions

Admissions are limited to individuals that:

- * Hold certification by the American Registry of Radiologic Technologists in Radiation Therapy Technology with three years of experience,
- OR
- * Hold a BS degree in physical science, preferably with one year of physics

It is the policy of the school and its sponsors to admit students without regard to race, sex, religion, national origin, or handicap, unless the handicap would prevent the student from fulfilling clinical requirements.

Selection Criteria

The Admissions Committee will review all completed applications. At that time the committee may select some candidates for a personal telephone interview based on academic achievements, GPA, training, and personal references. A strong math background is highly recommended.

Frequently Asked Questions (Remote Dosimetry Program)

Why is Stage 1 called a Boot Camp?

Stage 1 is very intensive training similar to military boot camp. Students are very extensively trained with a repeating pattern which has proven to be very successful.

How long is Stage 1?

Stage 1 is 4 weeks long with lectures varying from 3 hrs – 10 hrs per day. Assignments and hands on practice will vary from 3 hrs – 10 hrs per day. Group study sessions frequently occur in the evenings and on weekends.

Are their exams during the Boot Camp?

Yes. There are 3 written exams and 1 cumulative Oral Examination. All students must pass the oral examination. There are no grades. Students either meet criteria and pass or they fail.

Should the Facility have a Medical Physicist and Radiation Oncologist for oversight?

Yes. A certified medical physicist is desired. In the event that the facility does not have full time physics support, arrangements can be made with ARC to provide an auditing / oversight type role. The facility's radiation oncologist should play an active and supportive role in the growth of the student during this rotation cycle.

What type of project work is required during Stage 2?

Stage 2 is the clinical rotation cycle lasting 10 months. Didactic work to include labs, case presentations, case reports, literature review, journal review, and case comparisons are examples of work that will be required.

Where do the students stay during Stage 1.

Stage 1 is 4 weeks long. Lodging is available at a variety of sites and price ranges. The Administrative Director for ARC can provide you with a listing of housing options during this time period.

Is their hands on during Stage 1?

Yes. Students will be required to demonstrate hands on competency in areas of CT Simulation and Treatment Planning.

What responsibilities do facilities have?

Facility responsibilities are outlined in the Memorandum of Understanding (MOU).

Advanced Radiotherapy Consulting Remote Medical Dosimetry School Application for Admission

Please type or print information:

Personal Information

Name: _____
Last First MI

Social Security #: _____ **DOB:** _____ **Gender:** M F

Permanent Mailing Address: _____
Street, Apartment #

City, State, Zip

Home Phone: _____ **Work Phone:** _____ **Email Address:** _____

Are you eligible to attend school or work in the United States? Yes No

Education

Education	Institution	City, State	Dates Attended From - To	Degree	GPA
High School					
College					
Other					
Other					

***** COPIES OF YOUR COLLEGE AND OTHER PROGRAM TRANSCRIPTS
NEED TO BE SENT BY CERTIFIED MAIL WITH THE COMPLETED
APPLICATION TO:**

**Advanced Radiotherapy Consulting
Admissions Department
P.O. Box 208
Osceola, IN
46561-0208**

Professional Work Experience: (in order of most recent)

1.) Employer: _____

Address: _____

Position Held: _____ **Supervisor's Name:** _____

Phone Number: _____ **Dates Employed: From** _____ **To** _____

List Duties & Responsibilities: _____

2.) Employer: _____

Address: _____

Position Held: _____ **Supervisor's Name:** _____

Phone Number: _____ **Dates Employed: From** _____ **To** _____

List Duties & Responsibilities: _____

3.) **Employer:** _____

Address: _____

Position Held: _____ **Supervisor's Name:** _____

Phone Number: _____ **Dates Employed: From** _____ **To** _____

List Duties & Responsibilities: _____

4.) **Employer:** _____

Address: _____

Position Held: _____ **Supervisor's Name:** _____

Phone Number: _____ **Dates Employed: From** _____ **To** _____

List Duties & Responsibilities: _____

5.) Employer: _____

Address: _____

Position Held: _____ Supervisor's Name: _____

Phone Number: _____ Dates Employed: From _____ To _____

List Duties & Responsibilities: _____

6.) Employer: _____

Address: _____

Position Held: _____ Supervisor's Name: _____

Phone Number: _____ Dates Employed: From _____ To _____

List Duties & Responsibilities: _____

Professional References:

- 1.) Please ask three professors, teachers, or supervisors to fill out the enclosed reference forms on your behalf. Be sure to write your name on the reference forms.

- 2.) Mail or give each person the included forms with a stamped envelope and have them complete and send directly to:

**Brent D. Murphy / Natalie Will
Advanced Radiotherapy Consulting
P.O. Box 208
Osceola, IN
46561-0208**

- 3.) Your application will not be considered complete until all three references are received.

Please list the names and addresses of your references below:

Name	Address	Relationship

Personal Statements:

- 1.) On a separate sheet please write an essay outlining your interest in Medical Dosimetry or Medical Physics. This essay should include why you have chosen this particular field, leadership positions, and experience in the health field, research, or community service. Feel free to include any other life experiences that have led you to the present.

- 2.) List the types of equipment you have worked with (i.e. accelerators, simulators, treatment planning systems)**
- 3.) What do you hope to receive from this program and why did you choose this program in particular?**
- 4.) Other than minor traffic violations, have you ever been convicted of a felony misdemeanor? If yes, please explain.**

When completed, please send the application and \$25 application fee to: (Checks can be made out to A.R.C.)

**Brent D. Murphy / Natalie Will
Advanced Radiotherapy Consulting
P.O. Box 208
Osceola, IN
46561-0208**

I certify that the information submitted is true and correct to the best of my knowledge. I understand that withholding information or making false statements in this application may be used as the basis for denial of admission or for dismissal.

Signature

Date

Advanced Radiotherapy Consulting Remote Medical Dosimetry School Applicant Letter of Recommendation

Student Applicant's Name: _____

The above student has applied for admissions into the ARC Remote Medical Dosimetry School. We are looking for information that will help us in choosing professional, capable students. This program is vigorous and the student should be able to complete the academic as well didactic work in an efficient manner. Please fill out the recommendation based on your experiences with the named individual. We appreciate the time and effort it takes to fill out the form.

How long have you known the applicant? _____

What is your relationship to the applicant? _____

Please list some descriptive characteristics that highlights this applicant's abilities and potential as well as a student in the medical dosimetry field.

Please rate the applicant in the following categories, using a scale of 1 to 5 with five being superior and one being poor. If you have no basis for evaluation in any category, please check "No Basis".

Characteristics	Superior 5	4	3	2	1	No Basis
Leadership						
Computer skills						
Ability to work with people						
Problem solving ability						
Mathematics						
Sense of responsibility						
Ability to adapt in new situations						
Reliability						
Oral communication skills						
Written communication skills						
Ability to work independently						

Recommendation:

Strongly Recommend **Recommend** **Do Not Recommend**

Recommend with Reservations **If with reservations, please explain:**

Name: _____ Title: _____

Address: _____

Work Phone: _____

Signature: _____ Date: _____

Please Return To:

**Brent D. Murphy / Natalie Will
Advanced Radiotherapy Consulting
P.O. Box 208
Osceola, IN 46561-0208**

****Please feel free to attach a written letter of recommendation.**

**Advanced Radiotherapy Consulting
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Applicant Letter of Recommendation**

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Recommendation:

Strongly Recommend **Recommend** **Do Not Recommend**

Recommend with Reservations **If with reservations, please explain:**

Name: _____ Title: _____

Address: _____

Work Phone: _____

Signature: _____ Date: _____

Please Return To:

**Brent D. Murphy / Natalie Will
Advanced Radiotherapy Consulting
P.O. Box 208
Osceola, IN 46561-0208**

****Please feel free to attach a written letter of recommendation.**

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Applicant Letter of Recommendation**

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Problem solving ability						
Mathematics						
Sense of responsibility						
Ability to adapt in new situations						
Reliability						
Oral communication skills						
Written communication skills						
Ability to work independently						

Recommendation:

Strongly Recommend **Recommend** **Do Not Recommend**

Recommend with Reservations **If with reservations, please explain:**

Name: _____ Title: _____

Address: _____

Work Phone: _____

Signature: _____ Date: _____

Please Return To:

**Brent D. Murphy / Natalie Will
Advanced Radiotherapy Consulting
P.O. Box 208
Osceola, IN 46561-0208**

****Please feel free to attach a written letter of recommendation.**

**Hosting Facility Agreement
For
Stage 2 of Remote Dosimetry School**

Student Name _____ **Course Date** _____

Hosting Facility Name & Address _____

Student's Role: Student will be responsible for all school work which includes:

- 1) Case Presentations
- 2) Homework Assignments
- 3) Plan Reviews
- 4) Labs
- 5) Monthly Log Sheet

Medical Physicist's Roll: Identified to oversee the work of the dosimetrist which includes:

- 1) Expand on the student's modules and challenge student with subsequent questions.
- 2) Allow / Encourage the student to participate in Linac Monthly calibrations, and other Radiation Oncology QA programs.
- 3.) Provide clinical guidance to the student on case presentations.
- 4) Evaluate and provide feedback to the student on the student case presentations.
- 5) Supervise the work of the dosimetrist.
- 6) Sign off on any appropriate work as required by the State of general practice guidelines.
- 7) Sign off on Student Log for Satisfactory Work Performed.
- 8) Contact the ARC Program Director in the event of any substandard work.

**Hosting Facility Agreement
For
Stage 2 of Remote Dosimetry School
Page 2**

Radiation Oncologist's Roll: Identified to oversee the work of the dosimetrist which includes:

- 1) Allow / Encourage the student to participate in Film Reviews/ Tumor Boards.
- 2) Provide clinical guidance to the student on case presentations and labs as necessary.
- 3) Evaluate and provide feedback to the student on the student case presentations.
- 4) Sign off on student log for satisfactory work performed.
- 5) Contact the ARC Program Director in the event of any substandard work.

I agree to the above responsibilities and will actively take part in the didactic training of the above names student.

Signature of Medical Physicists

Date

Signature of Radiation Oncologist

Date

Signature of Student

Date

Signature of Department Manager

Date