

John Patrick University
of
Health and Applied Sciences

Upon recommendation of the Faculty,

John Patrick University of Health and Applied Sciences
has conferred upon

DANIEL ROACH

the degree of

MASTER OF SCIENCE IN MEDICAL PHYSICS

Who has honorably fulfilled all the requirements prescribed
by the University for that degree

at South Bend, Indiana this twenty-first day of August in
the year of our Lord two thousand and twenty-three



Brent Murphy
President

John Patrick University of Health and Applied Sciences

Official Transcript

100 E. Wayne Street, Suite 140, South Bend, IN 46601

Phone: (574)232-2408, Fax: (574)232-2200

RECIPIENT:

Daniel Roach
1101 N 57th Ave. W
Duluth, MN 55907

STUDENT:

Roach, Daniel
Student ID: 2022000214
Birthdate: May 22, 1998
Enrollment Date: Sep 6, 2021

Degrees/Certificates

Master of Science in Medical Physics

Granted 8/21/2023

Transcript**2021-2022: Fall 2021 - 09/06/2021 - 12/21/2021**

Course #	Name	Attempted Cr.	Earned Cr.	Grade	Points
BIOL530	Human Anatomy & Physiology	4.00	4.00	A	16.00
MP502	Physics of Radiation Biology	3.00	3.00	B	9.00
MP590	Medical and Professional Ethics	1.00	1.00	A	4.00
Totals		8.00	8.00	Term GPA: 3.63	Cum. GPA: 3.63

2021-2022: Spring 2022 - 01/10/2022 - 04/25/2022

Course #	Name	Attempted Cr.	Earned Cr.	Grade	Points
MP503	Physics of Diagnostic Radiology	3.00	--	W	--
MP505	Physics of Radiation Oncology I	3.00	3.00	B	9.00
MP599 S1	Seminars Session 1	1.00	1.00	A	4.00
Totals		7.00	4.00	Term GPA: 3.25	Cum. GPA: 3.50

2021-2022: Summer 2022 - 05/09/2022 - 08/22/2022

Course #	Name	Attempted Cr.	Earned Cr.	Grade	Points
MHP601	Shielding Design	2.00	2.00	A	8.00
MP503	Physics of Diagnostic Radiology	3.00	3.00	A	12.00
Totals		5.00	5.00	Term GPA: 4.00	Cum. GPA: 3.65

2022-2023: Fall 2022 - 09/05/2022 - 12/19/2022

Course #	Name	Attempted Cr.	Earned Cr.	Grade	Points
MHP510	Health Physics and Radiation Safety	3.00	3.00	A	12.00
MP506	Physics of Radiation Oncology II	3.00	3.00	A	12.00
MP613	Physics of Nuclear Oncology	3.00	3.00	A	12.00
Totals		9.00	9.00	Term GPA: 4.00	Cum. GPA: 3.77

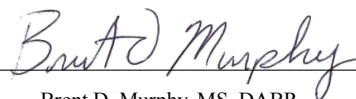
2022-2023: Spring 2023 - 01/09/2023 - 04/24/2023

Course #	Name	Attempted Cr.	Earned Cr.	Grade	Points
MP504	Physics of Nuclear Medicine	3.00	3.00	A	12.00
MP508	Radiological Instrumentation	2.00	2.00	A	8.00
MP599 S10	Seminars Session 10	1.00	1.00	A	4.00
MP603	Advanced Diagnostic Radiology	2.00	2.00	B	6.00
Totals		8.00	8.00	Term GPA: 3.75	Cum. GPA: 3.76



Elizabeth M Datema

Office of the Registrar



Brent D. Murphy, MS, DABR

President

2022-2023: Summer 2023 - 05/08/2023 - 08/21/2023

Course #	Name	Attempted Cr.	Earned Cr.	Grade	Points
MP501	Physics of Radiation Dosimetry	4.00	4.00	A	16.00
MP699	Clinical Internship	4.00	4.00	P	16.00
STAT501	Statistical Methods	3.00	3.00	A	12.00
Totals		11.00	11.00	Term GPA: 4.00	Cum. GPA: 3.82

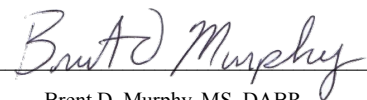
Cumulative

	Attempted Credits	Earned Credits	Points	GPA
Resident	48.00	45.00	172.00	3.82
Transfer	0.00	0.00	0.00	0.00
Overall	48.00	45.00	172.00	3.82





Elizabeth M Datema
Office of the Registrar



Brent D. Murphy, MS, DABR

President

KEY TO TRANSCRIPT OF ACADEMIC RECORDS

Note: The following explanation reflects information found on the John Patrick University of Health and Applied Sciences (JPU) **Official Transcript** produced from the Student Information System implemented June 2011. Prior to August 5, 2019, JPU was doing business as Radiological Technologies University VT.

I. *Grade and Credit Point System*

The following grades are considered in computing semester or cumulative grade averages. Course hours with a grade of "F" are counted when computing grade point averages but do not count toward the earned hours required for degrees.

Graduate Courses

A (4.0 Pts) Excellent	F (0.0 Pts) Failing
B (3.0 Pts) Good	P (4.0 Pts) Passed (Pass/Fail Option)
C (0.0 Pts) Unsatisfactory	WF (0.0 Pts) Withdrawn – Failing
D (0.0 Pts) Unsatisfactory	

Undergraduate Courses

A (4.0 Pts) Excellent	F (0.0 Pts) Failing
B (3.0 Pts) Good	P (4.0 Pts) Passed (Pass/Fail Option)
C (2.0 Pts) Satisfactory	WF (0.0 Pts) Withdrawn - Failing
D (0 Pts) Unsatisfactory	

Repeated Courses

Repeated courses are counted in the John Patrick University of Health and Applied Sciences grade point average and may also be counted in the student's primary program GPA (Student Program GPA), depending on the policies of the student's program. The first attempt to complete a course is listed as attempted credits not earned.

The following grades are not considered in computing semester or cumulative grade point averages:

AU	Audit - No Credit
I	Incomplete/Pending
T	Denotes credits transferred from another Institution
W	Withdrawn
R	Repeated Course

Abbreviations and Symbols

EHRS	Credit hours earned
QPts	Quality Points Earned
GPA	Grade point average (computed by dividing QPts by EHRS)

Credit Types

Regular Credit – All John Patrick University of Health and Applied Sciences credit is reported in terms of semester hours.

II. *Record Format*

The "Official Transcript" standard format lists course history, grade and GPA information in chronological order sorted by the student's career level. The "Official Transcript with Enrollment" provides the same information as the standard transcript but also includes all courses in which a student is currently enrolled or registered. "Official Transcript" or "Official Transcript with Enrollment" (Without career level designation) indicates that the document contains all work completed at John Patrick University of Health and Applied Sciences.

The JPU GPA reflects the student's GPA according to standard university-wide rules. A Semester JPU GPA and a cumulative to date JPU GPA are calculated at the end of each semester. The overall JPU GPA summary statistics are reflected at the end of each student career level.

The Student Program GPA is calculated according to the rules determined by the student's primary academic program at the time of printing. The cumulative Student Program GPA summary statistics are reflected at the end of each student career level and are based on the student's last active primary program at that level.

III. *Transfer, Test and Special Credit*

Courses accepted in transfer from other institutions are listed under a Transfer Credit heading. Generally, a grade of "T" (transfer grade) is assigned and course numbers, titles and credit hours assigned reflect JPU Equivalents. Transfer hours with a grade of "T" are not reflected in the cumulative grade averages; however, the hours are included in the "Hrs Earned" Field.

IV. *Accreditation*

This Institution is authorized by: the Indiana Board for Proprietary Education, 101 West Ohio Street, Suite 300 Indianapolis, Indiana 46204-4206. Phone (317) 464-4400 Ext. 138.

This Institution is accredited by the Accrediting Commission of Career Schools and Colleges (ACCSC), 2101 Wilson Boulevard, Suite 302 Arlington, VA 22201. Phone (703) 247-4212. Website: www.accsc.org. ACCSC is recognized by the United States Department of Education.

This Institution holds programmatic accreditation by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 2850 Chicago, Illinois 60606-3182. Phone (312) 704-5300. Email: mail@jrcert.org. Programs Accredited: Bachelor of Science in Medical Dosimetry and Master of Science in Medical Dosimetry.

V. *Validation*

A transcript issued by John Patrick University of Health and Applied Sciences is official when it displays signatures. Printed official transcripts display signatures and are printed on SCRIP-SAFE Security paper. A raised seal is not required.

VI. *Registrar Contact*

Questions about the content of this record should be referred to the Office of the Registrar where it was printed.



Radiation Physics
CONSULTANTS

April 12, 2024

ATTESTATION OF TRAINING

The following is the radiographic equipment Danny Roach has been properly trained on to perform Physics Testing. I, Steve Nicholas, verify the above person is competent to assess the following items marked below. If you have any questions, please contact me at steve@rpcphysics.com.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Radiographic Room | <input checked="" type="checkbox"/> CT Unit (ACR) |
| <input checked="" type="checkbox"/> Digital Radiography | <input checked="" type="checkbox"/> CT Unit (Non ACR) |
| <input checked="" type="checkbox"/> CR Reader | <input type="checkbox"/> Gamma Camera |
| <input checked="" type="checkbox"/> Portable Radiographic Unit | <input type="checkbox"/> MRI Unit (ACR) |
| <input checked="" type="checkbox"/> C-Arm | <input checked="" type="checkbox"/> MRI Unit (Non ACR) |
| <input checked="" type="checkbox"/> R&F Room | <input type="checkbox"/> Mammo Unit |
| <input checked="" type="checkbox"/> Specials/Cath/EP Lab | <input type="checkbox"/> Tomo/DBT Mammo Unit |
| <input checked="" type="checkbox"/> O-Arm | <input type="checkbox"/> Stereotactic Mammo Unit |
| <input checked="" type="checkbox"/> Dental Bitewing | <input checked="" type="checkbox"/> EOS Body Scanner |
| <input checked="" type="checkbox"/> Dental Panalipse | <input type="checkbox"/> Survey Meter |
| <input checked="" type="checkbox"/> Dental Conebeam CT | <input type="checkbox"/> Leak Test |
| <input checked="" type="checkbox"/> Dexa/Bone Densitometer | <input type="checkbox"/> Dose Calibrator Testing |

Sincerely,

Steven T. Nicholas, M.S., DABMP
President, RPC





Radiation Physics
CONSULTANTS

August 8, 2023

COMPETENCY ATTESTATION

I, Steve Nicholas, verify Danny Roach is trained and competent to perform the following services. If you have any questions, please contact me at steve@rpcphysics.com.

A. SERVICES TO THE X-RAY DEPARTMENT

1. Radiographic equipment:
 - a) Source-to-image (SID) accuracy, beam quality (HVL) analysis, and evaluation of spatial resolution
 - b) Radiation output (mR/mAs) verses kVp and distance (typical patient exposures)
 - c) Phototimer operation analysis
 - d) Tomographic performance analysis with respect to beam path and exposure uniformity, depth indicator accuracy, cut thickness, and resolution
 - e) Mechanical performance and electrical cable integrity inspection
 - f) Light field to x-ray beam alignment
 - g) Proper operation of interlocks and exposure switches
 - h) Accuracy of manual and automatic collimator operation
 - i) X-ray generator analysis with respect to kVp and timer accuracy, mA linearity, exposure reproducibility and assessment of radiation, and kV waveforms (non-invasive testing)

2. Computed Radiography equipment:
 - a) Physical inspection/inventory of cassettes
 - b) Imaging plate uniformity and dark noise
 - c) Signal response: linearity and slope; calibration and beam quality
 - d) Laser beam function
 - e) High-contrast resolution
 - f) Noise/low-contrast response
 - g) Aspect ratio and accuracy of distance measurements
 - h) Erasure thoroughness
 - i) Throughput

3. Digital Radiography equipment:
 - a) Uniformity and artifact evaluation
 - b) Signal response: linearity and slope; calibration and beam quality
 - c) High-contrast resolution
 - d) Noise/low-contrast response
 - e) Aspect ratio and accuracy of distance measurements
 - f) Anti-aliasing
 - g) Positioning and collimation errors
 - h) Monitor evaluation
4. Fluoroscopic equipment:
 - a) Verify compliance with state and federal regulations for fluoroscopic exposure rate conditions
 - b) Proper operation of interlocks, exposure switches, timers, table side shields, and tower aprons
 - c) Fluoroscopic imaging system resolution and contrast analysis
 - d) Fluoroscopic kVp accuracy, radiation and kV waveforms assessment (non-invasive testing), and fluoroscopic beam quality
 - e) Verify air kerma and/or DAP indicator accuracy
 - f) Spot film x-ray generator analysis with respect to kVp and timer accuracy, mA linearity, exposure reproducibility and assessment of radiation and kV waveforms (non-invasive testing)
 - g) Mechanical performance and electrical cable integrity inspection
5. Evaluate the monitor image and the hardcopy image

B. SERVICES TO THE CT SCANNER

1. Evaluate the CT x-ray equipment including performance evaluation and compliance testing as follows:
 - a) Beam alignment and alignment artifacts
 - b) Beam width (slice thickness) and scan increment accuracy
 - c) Measurement of uniformity throughout the image plane
 - d) Measurement of high contrast resolution of system
 - e) Determination of low contrast resolution (sensitivity) of system
2. Perform dosimetry measurements with respect to the following:
 - a) Location in phantom
 - b) kVp
 - c) mA
 - d) Scan time; scan diameter
3. Quality assurance test phantoms and various types of dosimetry equipment will be used to make all the measurements specified
4. Evaluate the monitor image and the hardcopy image

C. OTHER SERVICES

1. *Shielding*: Individual can help determine the necessary shielding evaluations for new equipment or modified exam rooms to ensure protection from scattered radiation. RPC can:
 - a. Create a concise and detailed report indicating the type and amount of required shielding materials for each wall, ceiling, and floor
 - b. Provide all necessary documentation for submitting the shielding report to state agencies for review
 - c. Communicate directly with state inspectors concerning discrepancies or questions
2. *Annual Audit*: Individual can perform an audit for the facility's Radiation Safety Officer. This is a thorough critique and analysis of the entire Radiology Quality Assurance Program which includes:
 - a. Review of the QA Manual to ensure all QC tests are performed properly, at the correct intervals, and documentation is maintained
 - b. Provide a comprehensive report specifying areas of deficiency and recommending corrections
 - c. Assist in modifying or creating site-specific policies and procedures

Sincerely,



Steven T. Nicholas, M.S., DABMP
President, RPC



Radiation Physics
CONSULTANTS

September 1, 2023

RSO QUALIFICATION LETTER

This letter is in reference to the Radiation Safety Officer qualification requirements set forth by the Minnesota Department of Health Ionizing Radiation Rules:

4732.0500 REGISTRANT'S SAFETY RESPONSIBILITIES.

Subp. 2. Designation of radiation safety officer.

B. The individual designated as a radiation safety officer must be either a licensed practitioner of the healing arts; or an individual who has completed training in the following items:

- (1) fundamentals of radiation safety;
- (2) familiarization with facility's radiation-producing equipment;
- (3) film processing, if applicable;
- (4) quality assurance program;
- (5) audits of the quality assurance program;
- (6) emergency procedures for radiation-producing equipment failures;
- (7) proper use of personal dosimetry, if applicable;
- (8) requirements of pertinent state rules; and
- (9) the registrant's written operating and emergency procedures.

Danny Roach, M.S., employed with Radiation Physics Consultants, Inc., has met the above training requirements in addition to gaining several years of clinical medical physics experience through physics testing as well as assisting in performing Annual RSO Audits. Therefore, I attest that Danny Roach has achieved a level of radiation safety knowledge sufficient to function independently as a Radiation Safety Officer for a facility licensed under MN Rules, Chapter 4732 - Ionizing Radiation.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Eastman', written over a light blue horizontal line.

David J. Eastman, M.E.H.S.
Medical Health Physicist & RSO under License Number 1048





THIS CERTIFIES THAT:
DANIEL ROACH
HAS SUCCESSFULLY COMPLETED THE PROGRAM ENTITLED:
DENTAL CONE BEAM CT FOR PHYSICISTS
September 15, 2020

Approval has been received from CAMPEP for up to 2 hours of Medical Physics Continuing Education Credits (MPCEC'S) Credits to be awarded by CAMPEP.

This activity is approved by ASRT for continuing education credit for Radiologic Technologist recognized by the ARRT and various states.

Credit Hours: 2.25 Category A ASRT#: WIZ0138114

Expiration Date : (11/01/2020)

Ernesto A. Ardenas, Ph.D.

MTMI, President

MTMI
10361 Innovation Drive, STE #400
Milwaukee, WI 53226