

Academic Programs in Medical Health Physics

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Introduction

Medical Health Physics Definition

Training Programs

Board Certifications

Ethics

Training Funds

MHP Definition

- HPS – none
- AAPM (www.aapm.org/medical_physicist/fields.asp)
 - Medical Health Physics (MHP) is a subfield of Medical Physics

Definition Continued

- AAPM: Qualified MHP has both
 - a master's or doctoral degree in physics, medical physics, biophysics, radiological physics, medical health physics, or equivalent disciplines from an accredited college or university; and
 - certification by an appropriate national certifying body and abides by the certifying body's requirements for continuing education.

AAPM Acceptable Boards

- The American Board of Medical Physics
- The American Board of Health Physics including a minimum of three years relevant experience in medical health physics

HP Academic Programs

- Listed on hps.org* 26 programs
in 23 states**
- ABET accredited 8 programs

**Health Physics Education Reference Book* by Academic Education Committee last updated in 2011; some program information older than 2011

**Many HPs I know graduated from unlisted programs

Programs

1. Bloomsburg University Pennsylvania BS
2. Clemson University South Carolina MS PhD
3. Colorado State University MS PhD
4. Duke University North Carolina MS PhD
5. Francis Marion University South Carolina BS
6. Idaho State University AA BS MS PhD
7. Illinois Institute of Technology MS
8. Linn State Technical College Missouri AA
9. Louisiana State University MS PhD

Programs Continued

10. Ohio State University MS PhD
11. Oregon State University BS MS PhD
12. Purdue University Indiana BS MS PhD
13. Rensselaer Polytechnic New York BS MS PhD
14. San Diego State University California MS
15. Texas A&M University BS MS PhD
16. Texas State Technical College AA
17. Thomas Edison State College AS BS
18. University of Cincinnati Ohio MS PhD

Programs Continued

- 19. University of Florida BS MS PhD
- 20. University of Mass Lowell BS MS PhD
- 21. University of Michigan BS MS PhD
- 22. University of Missouri-Columbia MS PhD
- 23. University of Nevada Las Vegas BS MS
- 24. University of Tennessee BS MS PhD
- 25. Vanderbilt University Tennessee MS PhD
- 26. Virginia Commonwealth University

HP Tracks

- Few have Medical Health Physics track
- Most teach broad HP at BS level
- Some offer opportunity to specialize at MS or PhD, including Medical HP
- Some emphasize environmental, instrumentation, nuclear power or medical – very few emphasize Medical HP.

Research

- Some programs have faculty who list grants in various research areas, a few in medical area.
- Some have training funding from Nuclear Regulatory Commission (Integrated University Program - IUP)

Typical Program Content

Typical Content:

- Basic radiation physics
- Instrumentation & Laboratories
- Health Physics
- Radiation Biology
- Environmental
- Dosimetry
- Nuclear Power

Program Content

Specialty Content

- Radioecology
- Medical Health Physics
- Medical Physics
- Other differences based on faculty & facilities
- There is no standard that dictates content

Specialty Board Certification

- ABHP: comprehensive certification
- ABMP: tests knowledge of radiation protection standards and practices
- ABHP (with medical experience) and ABMP certifications are recognized by the NRC for RSO eligibility.

(<http://www.nrc.gov/reading-rm/doc-collections/cfr/part035/part035-0050.html>)

Qualifications for Certification

- ABHP*
- Degree in physical sciences or biological sciences + 20 hours in physical sciences:
 - BS plus 6 years experience
 - MS plus 5 years experience
 - PhD plus 4 years experience

*(www.hps1.org/aahp/boardweb/prospectus.html)

Qualifications for Certification

- ABMP:

Masters or Doctoral degree plus 1-6 years experience depending on degree area*

[*www.abmpexam.com/INFO%20BOOKLET%202010.html](http://www.abmpexam.com/INFO%20BOOKLET%202010.html)

MHP Ethics

- HPS: code of ethics

hps.org/aboutthesociety/codeofethics.html

- AAPM: online training modules

<http://www.aapm.org/education/onlinemodules.asp>

- AAHP: Each CHP has a professional and ethical obligation to practice only in those areas in which he or she is competent.

IUP Funding

- Top item on HPS legislative agenda - funding of the Integrated University Program (IUP):
 - NRC administers program.
 - OMB almost always zeros out funding.
 - HPS leadership meets with U.S. Senate and House appropriators twice per year to advocate funding of IUP.

Training Funding

- 2004: HPS supported Rep. Biggert's bill to provide \$15 million for health physics research and more than \$27 million for undergraduate and graduate fellowships in health physics and nuclear science and engineering.

Training Funding

- 2010: Appropriations removed funding. During President Dickson's visit to DC, Appropriators restored funding language.
- 2011: Despite lobbying, funding cut to ~\$8M for fellowships and \$10M for Low Dose Research.
- 2012: IUP funding cut to \$5M
- 2013: Continuing Resolution
- 2014: Sequestration

Conclusion

- MHP as a discipline not very visible within HPS compared to AAPM
- ABHP does not certify in MHP per se while ABMP does.
- Both Boards acceptable per AAPM definition of qualified MHP, but ABHP must have at least 3 years medical experience.