

Master of Science in Orthotics & Prosthetics

**Post Baccalaureate Education to become a Certified
Prosthetist/Orthotist (CPO)**

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Master's Degree in Orthotics & Prosthetics - Post Baccalaureate Education to become a Certified Prosthetist/Orthotist (CPO)

Occupational Description:

Orthotics and prosthetics are applied physical disciplines that address neuromuscular and structural skeletal problems in the human body with a treatment process that includes evaluation and transfer of forces using orthoses and prostheses to achieve optimum function, prevent further disability, and provide cosmesis. The orthotist and prosthetist work directly with the physician and representatives of other allied health professions in the rehabilitation of the physically challenged. The orthotist designs and fits devices, known as orthoses, to provide care to patients who have disabling conditions of the limbs and spine. The prosthetist designs and fits devices, known as prostheses, for patients who have partial or total absence of a limb.

Job Description:

The role of the orthotist and prosthetist includes, but may not be limited to, five major domains: clinical assessment, patient management, technical implementation, practice management, and professional responsibility.

Employment Characteristics:

Orthotists and prosthetists typically provide their services in one or more of the following settings: private facilities, hospitals and clinics, colleges and universities, and medical schools.

Educational Programs:

Length. Orthotic and/or prosthetic education culminates in a Master's degree.

Prerequisites. Applicants should have a baccalaureate degree that includes appropriate coursework in biology, chemistry, physics, psychology, algebra, human anatomy, and physiology, as well as any other specified by the institution.

Curriculum. The professional curriculum includes formal instruction in biomechanics gait analysis/pathomechanics, kinesiology, pathology, materials science, research methods, diagnostic imaging techniques, measurement, impression taking, model rectification, diagnostic fitting, definitive fitting, postoperative management, external power, static and dynamic alignment of sockets related to various amputation levels, and fitting and alignment of orthoses for lower limb, upper limb, and spine with various systems to be included. The curriculum also includes a clinical experience.

*****The description above is a direct quote from the Commission on Accreditation of Allied Health Education Programs and can be accessed at the following link:***

<https://www.caahep.org/Students/Program-Info/Orthotist-Prosthetist.aspx>

List of Accredited Schools for Master's Degree in Orthotics and Prosthetics:

Programs listed in alphabetical order by state

Alabama State College of Health Sciences (Montgomery, AL)

California State University (Los Alamitos, CA)

Loma Linda University School of Allied Health Professions (Loma Linda, CA)

University of Hartford (West Hartford, CT)

Florida International University (Miami, FL)

***FIU's program is a Master of Science in Engineering Management Orthotics and Prosthetics, which differs from all other programs discussed in this packet. Refer to this program's website (Page 10) for more information, as requirements and education may differ from all other programs discussed here.*

Northwestern University (Chicago, IL)

Eastern Michigan University (Ypsilanti, MI)

Concordia University (St. Paul, MN)

University of Pittsburgh (Pittsburgh, PA)

Baylor College of Medicine (Houston, TX)

University of Texas Southwestern Medical Center (Dallas, TX)

University of Washington (Seattle, WA)

***This packet is meant to provide a comprehensive look at each of the schools combined into a single location for comparison. If you are interested in a specific program, the link for each is listed on the Page 10; more in depth information for each program can be found at these websites.*

Prerequisites Courses Required for all Programs:

Baccalaureate degree from an accredited US college or university or an internationally recognized equivalent with a minimum cumulative GPA of 3.0 on a 4-point scale, in addition to completion of the Graduate Record Examination (GRE). The following prerequisite courses are required by ALL programs in order to apply. A grade of “B” or higher must be achieved in prerequisite courses to be considered for most programs. (While a few programs will allow a grade of a “C” or higher in prerequisite courses, it is recognized that competitive applicants will achieve a grade of a “B” or higher.)

Course Name	Credit Hours
Biology/Life Sciences with Lab	4
Chemistry with Lab	4
Physics I with Lab	4
Human Anatomy with Lab AND Human Physiology with Lab	8
Psychology	3
Statistics	3
College Algebra or higher math*	3

Many programs require additional prerequisite courses, which are listed by school on the following page. Additional requirements for applying can be found on Page 8.

***The courses listed above and on the following 3 pages are based on information from each program’s individual website; however, this information has the potential to change. Confirming these courses by reviewing individual programs’ websites is advised. Updated 04/2020*

Additional Prerequisite Courses Required by some Programs:

Course (minimum credit hours)

Alabama State College of Health Sciences

Developmental Psychology (3) OR Abnormal Psychology (3)

~Encouraged but not required: Physics II with Lab, Math beyond College Algebra

California State University

Human Growth and Development (3) OR Abnormal Psychology (3)

~Encouraged but not required: Ethics, Business Management

Loma Linda University School of Allied Health Professions

Developmental Psychology (3) OR Abnormal Psychology (3)

CPR Course & Certification (*required before clinical rotations, recommended prior to program start*)

University of Hartford

Human Growth and Development (3)

Abnormal Psychology (3)

Physics II with Lab (4)

College Trigonometry (3)

Northwestern University

~Encouraged but not required: Business Management, Material Science, Computer Science, Developmental or Abnormal Psychology,

Eastern Michigan University

Additional Psychology course (3)

College Trigonometry (3)

University of Pittsburgh

Human Growth and Development (3) OR Abnormal Psychology (3)

~*Science courses may NOT be completed in an online or e-learning setting*

Baylor College of Medicine

~Encouraged but not required: Engineering courses (Biomechanics, Materials Science)

University of Texas Southwestern Medical Center

Physics II with Lab (4)

Additional Biology Course with Lab (4)

University of Washington

Developmental Psychology (3) OR Abnormal Psychology (3)

Physics II with Lab (4)

***The courses listed above and on the following two pages are based on information from each program's individual website; however, this information has the potential to change. Confirming these courses by reviewing individual programs' websites (found on [Page 10](#)) is advised.*

Alabama State College of Health Sciences	California State University	Loma Linda University School of Allied Health Professions	University of Hartford	Florida International University	Northwestern University
Montgomery, AL	Los Alamitos, CA	Loma Linda, CA	West Hartford, CT	Miami, FL	Chicago, IL
Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Trigonometry (3)	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math
Developmental Psychology (3) OR Abnormal Psychology (3)	Human Growth & Development (3) OR Abnormal Psychology (3)	Developmental Psychology (3) OR Abnormal Psychology (3) CPR Course & Certification (required before clinical rotations, recommended prior to beginning program)	Human Growth & Development (3) Abnormal Psychology (3) Physics II with Lab (4)	**This is a Master of Science in Engineering Management O & P (See individual program website for details, as requirements may vary)	
Below courses encouraged, but not required:					
Math Beyond College Algebra Physics II with Lab	Ethics Business Management				Business Management Materials Science Computer Science Developmental or Abnormal Psychology

Eastern Michigan University	Concordia University	University of Pittsburgh	Baylor College of Medicine	University of Texas Southwestern Medical Center	University of Washington
<i>Ypsilanti, MI</i>	<i>St. Paul, MN</i>	<i>Pittsburgh, PA</i>	<i>Houston, TX</i>	<i>Dallas, TX</i>	<i>Seattle, WA</i>
Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Trigonometry (3) Additional Psychology course (3)	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math Human Growth & Development (3) OR Abnormal Psychology (3) <i>Science courses may NOT be taken in online settings</i>	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math Additional Biology Course with Lab (4) Physics II with Lab (4)	Biology/Life Sciences with Lab (4) Chemistry with Lab (4) Physics I with Lab (4) Human Anatomy with Lab (4) Human Physiology with Lab (4) Psychology (3) Statistics (3) College Algebra (3) or higher math Developmental Psychology (3) OR Abnormal Psychology (3) Physics II with Lab (4)
Below courses encouraged, but not required:					
			Engineering courses (<i>Biomechanics, Material Science, etc.</i>)		

Additional Requirements:

Applications are submitted via Orthotics and Prosthetics Centralized Application Service (OPCAS). Requirements for ALL programs include:

- 3 letters of recommendation** - at least 1 must be from a Prosthetist/Orthotist
- Background check**
- Immunizations**
- Personal Statement**
- Graduate Record Exam (GRE)** - taken within 5 years of applying

Additionally, ALL programs highly recommend documented job shadowing, volunteering, interning, and/or working with prosthetics/orthotics at a clinic/institution for as many hours as possible to gain experience in the profession. Programs are limited to accepting 10-30 students each year, so it is expected that applicants have knowledge about the profession in order to ensure commitment to completion of the program.

The following programs require a specified minimum number of hours of documented experience within the profession upon applying:

<u>Program Name</u>	<u>Hours</u>
Alabama State University	100
California State University	40
Loma Linda University School of Allied Health Professions	80
University of Pittsburgh	250
Baylor College of Medicine	150

***Additional requirements may be requested during the application process. Information can be found at individual programs' websites (found on Page 11 of this packet), and through the Orthotics and Prosthetics Centralized Application Service (OPCAS) Portal, which can be accessed at the following link:*

<https://opcas.liasoncas.com/applicant-ux/#/login>

Links for Additional Information on Orthotics & Prosthetics:

National Commission on Orthotic and Prosthetic Education (NCOPE)

<https://ncope.org/>

NCOPE: “Our Profession” Career Awareness

<https://ncope.org/index.php/home-page-v2/academic-programs/the-orthotic-prosthetic-pedorthic-profession/>

Orthotics and Prosthetics Centralized Application Service (OPCAS) Portal

<https://opcas.liaisoncas.com/applicant-ux/#/login>

The American Academy of Orthotists and Prosthetists

<https://www.oandp.org/>

Links for Additional Information by Program:

Alabama State College of Health Sciences

<https://www.alasu.edu/chs/prosthetics-and-orthotics/application-information>

California State University

<https://www.csudh.edu/health-sciences/oandp/msop-option/>

Loma Linda University School of Allied Health Professions

<https://alliedhealth.llu.edu/academics/orthotics-and-prosthetics/admissions-op>

University of Hartford

<https://www.hartford.edu/academics/schools-colleges/enhp/academics/department-of-rehabilitation-sciences/ms-in-prosthetics-and-orthotics.aspx>

Florida International University

Master of Science in Engineering Management Orthotics and Prosthetics

<https://em.fiu.edu/msem-orthotics-prosthetics/>

Northwestern University

<https://www.nupoc.northwestern.edu/education/masters-program/admissions.html>

Eastern Michigan University

https://catalog.emich.edu/preview_program.php?catoid=33&poid=13894

Concordia University

<https://www.csp.edu/academic-programs/ms-orthotics-prosthetics-admissions-process/>

University of Pittsburgh

<https://www.shrs.pitt.edu/po/admission>

Baylor College of Medicine

<https://www.bcm.edu/education/schools/school-of-health-professions/programs/orthotics-and-prosthetics/admissions/admission-requirements>

University of Texas Southwestern Medical Center

<https://www.utsouthwestern.edu/education/school-of-health-professions/programs/prosthetics-orthotics/admissions/>

University of Washington

<http://rehab.washington.edu/education/degree/po/eligibility.asp>

***All information listed has been obtained from the websites above and has in many cases been summarized for simplicity. As information can be subject to change, confirming information found in this packet with the websites above is advised.*

Updated: 04/2020.

Frequently Asked Questions:

What is a CPO?

A CPO is a Certified Prosthetist and Orthotist. This is the title of a clinician/practitioner who has passed the national board examinations following completion of a Master of Science in Orthotics & Prosthetics and Clinical Residency.

As a prosthetist, do you work with patients or make the devices?

Both. Prosthetic care consists of patient evaluation, and design, fabrication, and custom fitting of prosthetic devices (protheses) to restore function to a part of the body.

Additional information on the role of a prosthetist can be found on [Page 2](#) and [Page 9](#).

What does an orthotist do?

Orthotic care consists of patient evaluation, and design, fabrication, and custom fitting of orthopedic braces (orthoses) in order to control motion, assist motion, reduce pressures, aid healing, reshape, or restore function to a part of the body. Additional information on the role of an orthotist can be found on [Page 2](#) and [Page 9](#).

Where do Orthotists/Prosthetists work, and what types of jobs can you get?

Hospitals, VA Hospitals and Clinics, Private Clinics and Clinical Groups, Humanitarian, Clinical Education, Manufacturing/Product Development, Research, Entrepreneurship

Prosthesis and Orthosis vs. Prosthetic and Orthotic?

Prosthetic and Orthotic are adjectives (i.e. a prosthetic leg, an orthotic design)

Prosthesis and Orthosis are nouns (i.e. his/her prosthesis, his/her orthosis)

How do you become an Orthotist/Prosthetist?

Bachelor's degree (with required prerequisites)

Master's degree in Orthotics & Prosthetics (18-24 months)

Clinical Residency (12 months Orthotics AND 12 months Prosthetics;

OR 18 months Integrated Orthotics and Prosthetics)

Board Eligibility upon graduation and completion of residency

5 national board examinations for certification in Orthotics and Prosthetics

What should I major in if I want to become an Orthotist/Prosthetist?

Like many other health professions, there is no single major recommended, just required prerequisites. Common degrees include Health Sciences and Engineering

What careers exist in Orthotics and Prosthetics other than an Orthotist/Prosthetist?

Other careers in Orthotics & Prosthetics include fitters, technicians, and assistants; more information about each of these careers can be found on [Page 9](#), and at the following link:

<https://ncope.org/index.php/home-page-v2/academic-programs/the-orthotic-prosthetic-pedorthic-profession/>

Additionally, Orthotists/Prosthetists frequently work in collaboration with physical and occupational therapists, who also provide care to patients with prostheses and/or orthoses