

## Introduction

Choosing a Master of Science in O&P (MSOP) program can seem like a daunting task to prospective students, and O&P professionals at any stage of their careers know that the quality of education and the students who are beginning there will influence the profession for decades to come. This study presents an in-depth comparison of the entrance requirements for the MSOP programs in the United States. For potential students, this information may enhance decision-making by having all the data consolidated into one report. Career professionals, removed from the educational process, may benefit from knowing how your soon-to-be colleagues began their O&P careers.

There are 13 graduate-level O&P programs across the United States, and each one is uniquely designed with its own duration, tuition, prerequisites, and application requirements.

The curriculum guidelines were created by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and National Commission on Orthotic and Prosthetic Education (NCOPE) to set minimum standards of learning; however, each program chooses how it will apply the standards to meet curriculum needs.

## The Programs

The study consisted of NCOPE-accredited MSOP program requirements for 2019 and 2020. Non-accredited MSOP programs and program requirements in existence prior to 2019 were not included.

Three schools located on the West Coast include The University of Washington, California State University Dominguez Hills, and Loma Linda University School of Allied Health Professions. There are five schools in the Central region: Concordia University St. Paul, Eastern Michigan University, Northwestern University, Baylor College of Medicine, and University of Texas Southwestern Medical Center. There are five schools in the East Coast region: University of Hartford, University of Pittsburgh, Alabama State University, Georgia Institute of Technology, and Florida International University. Georgia Institute of Technology was excluded from the final analysis because the program was not accredited at the time of the study. Data for this analysis was collected from the 13 O&P graduate schools' websites. The data collected consisted of the prerequisites, application requirements, length of the program, tuition, and application requirements. Each website contained the

necessary information, and the schools were not contacted directly. The information was then compiled based on a project-specific framework. To address reliability and validity, the program-specific prerequisite criteria was cross-checked against the 2019-2020 published curriculum for each institution.

This study examines each program's tuition cost, average O&P program tuition cost, each program's length, average O&P program length, and required prerequisites.

## School Comparison Data

Total tuition spans from \$18,540 to \$105,599, representing a \$87,540 difference between the most and least expensive programs. Tuition was defined as the cost of the credits plus any listed fees, including lab fees, toolboxes, books, and additional fees. Room and board are not factored into the cost of tuition. Five schools offered in- and out-of-state tuition rates. Seven schools offered only one tuition rate (Figure 1, pg. 38). The tuition averages are as follows: in-state tuition is \$38,777 with standard deviation of \$18,392.84, out-of-state tuition \$61,245 with a standard deviation of \$21,231.46, and single-rate tuition \$63,109 with a standard deviation of \$25,842.57.

## The standards set by CAAHEP and NCOPE include:

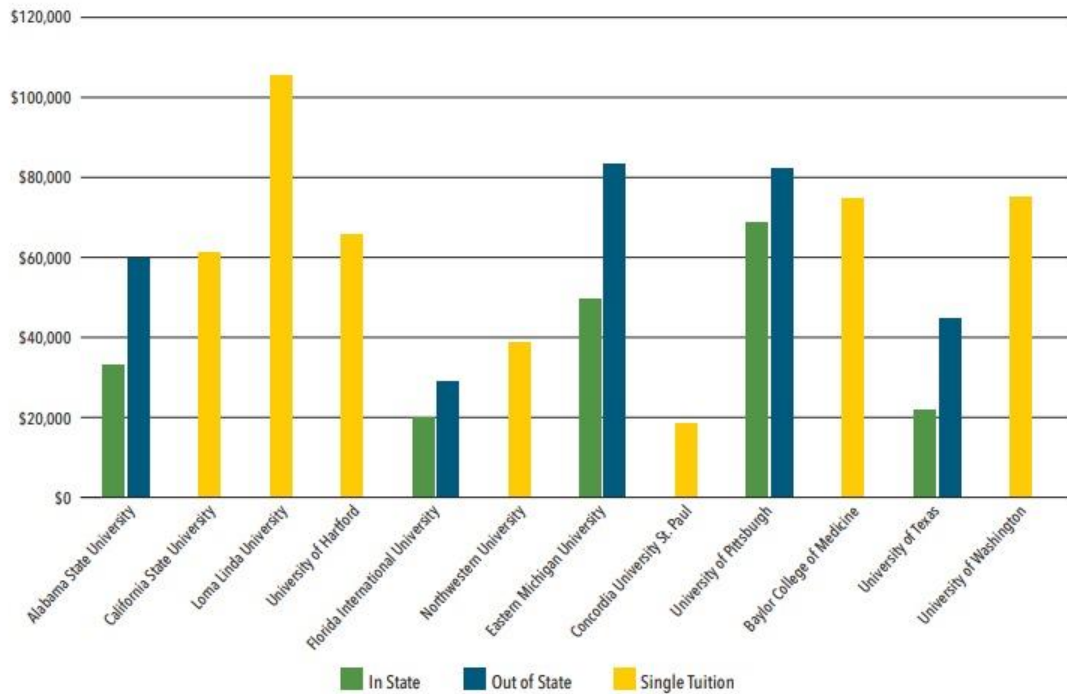
- A minimum of 60 semester credits
- A basic science curriculum, which can be part of the professional curriculum or required prior to entry into a program, including:
  - Life Sciences/Biology
  - Chemistry
  - Physics
  - Human Anatomy and Physiology
  - Psychology
  - Statistics

### Twenty foundational courses, including:

- Behavioral Sciences
- Clinical Pathology
- Clinical Pharmacology
- Clinical Skills
- Clinical Technologies
- Communication Skills
- Diagnostic Studies
- Ethics
- Evidence-based Practice
- Healthcare Economics
- Human Anatomy and Physiology

- Kinesiology and Gait Analysis
- Materials Science and Mechanical Principles
- Models of Disablement
- Neuroscience
- Practice Management
- Professional Issues
- Rehabilitation Science
- Research Methods
- Technical Skills
- One research/capstone project

**FIGURE 1. MSOP Tuition and Fees**



The average program length is 21.5 months, excluding residency, with a standard deviation of 3.3 months. The shortest program is 18 months at Florida International University while the longest programs are 30 months at Loma Linda University and Baylor College of Medicine. However, Baylor College of Medicine's program length includes an 18-month residency while all other programs do not include residency in the program duration.

Each MSOP program has required prerequisite classes prior to entering the program. The most common are Human Anatomy and Physiology with lab, Chemistry with lab, and Statistics. Eleven of the 12 schools require these prerequisite classes.

The only school that did not list any required prerequisite courses was Florida International University, however it strongly recommends a baccalaureate degree in biomedical engineering or other engineering discipline but will review applicants without it on a case-by-case

basis. Concordia University St. Paul also differs from the other programs because students must complete O&P-specific prerequisites. Century College students must earn a Clinical Applications diploma comprising entry-level O&P-related coursework prior to application.

Graduate Record Examinations (GRE) exam scores, GPAs, letters of recommendation, a personal statement or letter of intent, and hours of observation are also required. Eight schools require GRE scores be submitted during application. The four schools that do not require the GRE exam scores to be submitted include Northwestern University, Loma Linda University, University of Hartford, and Concordia University St. Paul.

The minimum average GPA needed to apply, cumulative and in prerequisite classes, is 3.0. Nine schools require a 3.0 for the cumulative GPA, and six schools require a 3.0 GPA for the prerequisite classes (Figures 2 and 2.1, pg. 39).

Eight schools require a letter of

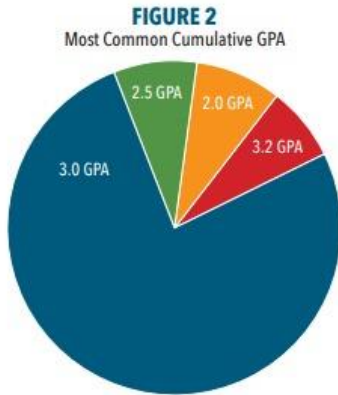
recommendation. Of those schools, six require three letters and two schools require two letters (Figure 3, pg. 40). Six schools require a personal statement/letter of intent. Eight schools require or highly recommend students have hours of observation or employment in the field. The suggested hours range from 80 hours at Loma Linda University to 300 hours at Northwestern University.

### Making Comparisons

Reviewing the entrance requirements for O&P programs across the country, similarities and differences exist. The advantages of having similarities within entrance requirements include creating a homogeneous student sample and weeding out students who are less likely to complete the program. It also creates a streamlined application process for students. However, different requirements create a heterogeneous student sample and allow for the accommodation of varied student performance. 🚫

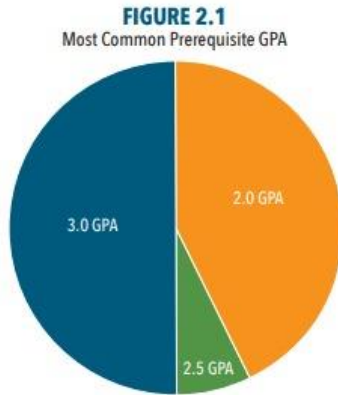


A COMPARATIVE STUDY



Mandating a prerequisite program, as do Florida International University and Concordia University St. Paul, requires students to decide on the O&P career path while completing their undergraduate studies or take additional time to fulfill the prerequisite requirements prior to applying for the master's program of their choice.

The program at Baylor College differs



from all other programs in that the residency is included in the program length. The Baylor program is comprised of a 12-month didactic portion and an 18-month rotating residency. All other MSOP programs require an additional 18-24-month residency after the completion of the MSOP program. Because the Baylor program requires students to perform their residencies at six different

locations chosen by the school, it allows students to travel while completing the O&P program and provides an accelerated pathway into the O&P profession.

**Conclusion**

With this information as a step in the decision-making process, an applicant may be able to address his or her specific concerns prior to applying. Each school offers its own benefits, including a low-cost option, a short timeline, the ability to travel while in school, increased academic preparation prior to residency, not requiring the GRE, an 18- or 24-month residency option, and specific baccalaureate degree options. The schools vary widely in price although their prerequisites do not display why one school would be more expensive than another. The time spent in school does not necessarily reflect a more expensive program. **O&P EDGE**

*Laura Chambers, MSOP, CFM, is a resident with Pongratz Orthotics & Prosthetics, Phoenix. She can be reached at lchambers@pongratsop.com.*

*References are available at opedge.com.*

**FIGURE 3. Additional Requirements**

	ASU	CSU	LLU	U of H	FIU	NU	EMU	CU STP	U of P	BCM	U of T	U of W
GRE Required	x	x			x		x		x	x	x	x
Letters of Recommendation	3	3		2		2	3		3	3	3	
Personal Essay/ Letter of Intent	x	x				x		x	x	x		
Hours of Observation/ Employment	100	*	80			200-300 hrs			250 hrs	150 hrs	**	***

\*Proof of Knowledge/Background in O&P    \*\*Recommended    \*\*\*Highly Recommended

**FIGURE 4. Programs Based on Student Desires**

Student Preferences	ASU	CSU	LLU	U of H	FIU	NU	EMU	CU STP	U of P	BCM	U of T	U of W
Limited Income					x			x				
Limited Time					x		x			x		
Desire to Travel										x		
More Academic Prep			x					x				
GRE Not Required			x	x		x		x				
18/24-month Residency	x	x	x	x	x	x	x	x	x		x	x
BS Engineering					x							