

# ENDODONTICS RESIDENCY + DOCTORATE DUAL DEGREE PROGRAM

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## Program Overview

Endodontics Residency + Doctorate Dual Degree Program (<https://www.pacific.edu/dental/academic-programs/endophd/>)

The Department of Endodontics offers a Certificate in Endodontics – PhD conjoint program. This five-year, full-time, self-funded program provides a unique opportunity for clinician-scientists to hone their skills and excel both in their advanced clinical training in endodontics, but also cutting-edge research, which prepares them for both specialty practice and the academic world.

The first three years of this program are dedicated to the PhD program, which is offered in association with the Department of Chemistry, and the subsequent two years focus on advanced training in endodontology. Students will have an outstanding opportunity to develop their knowledge, scientific and laboratory skills on several cutting-edge research projects helping to further the Department of Endodontics' goals.

As one of the select few clinician-scientists with advanced training in endodontology and a PhD, you become ready for both clinical practice and an educator/scientist track. There is also ample opportunity in industry for candidates who have an interest in entrepreneurship. During the PhD program, you will also be exposed to the classic and recent science in endodontics. You will have the opportunity to attend classes with the endodontic residents. You will also engage in the simulation laboratory and didactic education of the pre-doctoral students during your program.

Total requirement: 45 credits

### General Core courses (MANDATORY): TOTAL 20 CREDITS

PCSP 201: Statistics and Experimental design (3 credits)  
PCSP 203: Information and Laboratory Management (1 credit)  
PCSP 209: Technical writing and Presentation (1 credit)  
PCSP 395: Seminar (3 credits)  
PCSP 397: Research project (8 credits)  
PCSP 399: Dissertation (4 credits)

### Specialized core courses (MANDATORY): TOTAL 17 CREDITS

PCSP 212: Methods in bioanalytical, physical and biochemistry (2 credits)

PIDENT-2304: Microbiology as it relates to oral health (4 credits)  
PIDENT-2305: Infection and immunity (4 credits)  
PCSP 237: Cell culture techniques (2 credits)  
PIDENT-2306: Microbiological laboratory techniques (2 credits)  
PIDENT-2307: Laboratory rotation (3 credits)

### Elective courses (General): At least 2 required (TOTAL 3 CREDITS)

PCSP 207: Bioanalytical techniques  
PCSP 208: Applied Pharmaceutical Analysis  
PIDENT-2308: General microbiology  
PIDENT-2309: Introduction to tissue engineering

### Specialized electives: At least 3 required (TOTAL 5 CREDITS)

PCSP 245: Proteins and nucleic acids  
PCSP 215: Molecular modeling and Drug design  
PIDENT-2310: Peptides and peptoids  
PIDENT-2311: Pulp and periradicular biology  
PIDENT-2312: Mineralized tissues

PIDENT-2313: Applied biomaterials

PIDENT-2314: Advanced microscopy for biomedical research