DIGITAL DENTISTRY CURRICULUM

FOR PREDOCTORAL AND ADVANCED EDUCATION IN PROSTHODONTICS
This curriculum was made possible through a grant from the American College of Prosthodontists Education Foundation thanks to the generous support of Henry Schein and its partner companies.

The Digital Dentistry Curriculum Team was made up of a number of volunteers who invested their expertise and many hours into this project. Without their leadership on this project, this resource for the dental community would not have been possible.

**VOLUNTEER RECOGNITION**

**CURRICULUM DEVELOPMENT TEAM**

Eva Anadioti  
Ekaterini Antonellou  
Sun-Yung Bak  
Ioana Bettios  
Peter Boonsiriphan  
Matthew Bryington  
Richard Callan  
Konstantinos Chochlidakis  
John Coleman  
Jerry Cooper  
Alan Furness  
Maria Gonzalez  
Alfredo Hernandez  
Negar Homayounfar  
Anastasia Katsavochristou  
Ahmad Kutkut  
Sang Lee  
Mohamed Mansour  
Patrick Mascarenhas  
Radi Masri  
Darshanjit Pannu  
Sang Park  
Soni Prasad  
Walter Renne  
Elias Rivera  
Evan Rosen  
Michelle Rynn  
Ricardo Schwedhelm  
Richard Seals  
Kumar Shah  
Sharon Siegel  
Erica Teixeira  
Frank Tuminelli  
Alejandro Urdaneta  
Richard J. Windhorn  
Judy Yuan

**TASK FORCE**

Stephen Campbell  
Lyndon Cooper  
Lily T. Garcia  
Carol Lefebvre

**GROUP LEADS**

Fatemeh Afshari  
Nadim Z. Baba  
Monica Cayouette  
Gerald Grant  
Rand Harlow  
Leila Jahangiri  
Robert Kramer  
Mark Ludlow  
Keith Mays  
Kamolphob Phasuk  
Ramtin Sadid-Zadeh
# Learning Objectives and Competencies

## Intent Statement

- Overall Competency
  - Single-Unit Restoration
  - Removable Prostheses

## Suggested Assessment Plans and Evidence

- Glossary

# Curriculum Framework

## Introduction

- Strategies to Implement Digital Dentistry in the Dental Curriculum
  - Faculty and Staff Training
  - Information Technology

## Predoctoral Digital Dentistry Courses

- Dental Anatomy
- Operative Dentistry I and II
- Preclinical Fixed Prosthodontics I
- Digital Fixed Prosthodontics II
<table>
<thead>
<tr>
<th>Table of Contents (Cont’d)</th>
</tr>
</thead>
</table>

Radiographic Interpretation Cone Beam Computed Tomography (CBCT) 33

Digital Dentistry and Implants 35

Prosthodontic Driven Implant Guided Surgery 36

Digital Single-Unit Implant Restorations 37

- IMPLANT DIGITAL RESTORATIVE WORKFLOW 39

Digital Removable Partial Dentures 40

Digital Complete Dentures 43

Clinical Digital Dentistry 49

- SINGLE-UNIT FIXED DENTAL PROSTHESIS — CLINICAL WORKFLOW 52

- SINGLE-UNIT FIXED DENTAL PROSTHESIS — CLINICAL PROCEDURE WORKFLOW 53

- IMPLANT DIGITAL WORKFLOW 54

axiUm Digital Procedure Codes 55

Diagnostic Checklist 56

Predoctoral Digital Dentistry Philosophy for Single-Unit Fixed Dental Prostheses 57

- Diagnosis and Treatment Planning 57

- Referral for Digital Dentistry 58

- Shade Selection 59

Tooth Preparation Principles, Margin Design, and Selection of Restorative Materials for CAD/CAM 59

Preparation Designs 60

Provisionalization 61

Impression Making and Tissue Retraction for Conventional Final Impressions 61

Digital Impression Making, Tissue Retraction, and Scanning Protocol 62

Digital Dentistry Curriculum Content 63
# Implementation of a Digital Curriculum

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Plan</td>
<td>67</td>
</tr>
<tr>
<td>Communication Resources</td>
<td>67</td>
</tr>
<tr>
<td>Additional Implementation Resources</td>
<td>67</td>
</tr>
<tr>
<td>How to Establish a Digital Curriculum — Digital Implementation</td>
<td>68</td>
</tr>
<tr>
<td>Information Technology — Critical Role</td>
<td>69</td>
</tr>
<tr>
<td>Business Plan</td>
<td>70</td>
</tr>
<tr>
<td>The Impact of Digital Clinical Education</td>
<td>70</td>
</tr>
<tr>
<td>Glossary</td>
<td>70</td>
</tr>
<tr>
<td>The UIC Experience</td>
<td>71</td>
</tr>
<tr>
<td>The MUSC Experience</td>
<td>72</td>
</tr>
<tr>
<td>University of Illinois at Chicago — Department of Restorative Dentistry</td>
<td>73</td>
</tr>
<tr>
<td>▶ CONVENTIONAL WORKFLOW / PARTIAL DIGITAL WORKFLOW / COMPLETE DIGITAL WORKFLOW</td>
<td>73</td>
</tr>
<tr>
<td>▶ CONVENTIONAL WORKFLOW / DIGITAL WORKFLOW</td>
<td>74</td>
</tr>
<tr>
<td>Medical University of South Carolina — Department of Oral Rehabilitation</td>
<td>85</td>
</tr>
<tr>
<td>▶ CONVENTIONAL WORKFLOW / DIGITAL WORKFLOW SINGLE VISIT / DIGITAL WORKFLOW TWO VISIT OUTSOURCED TO COMMERCIAL LAB</td>
<td>85</td>
</tr>
<tr>
<td>▶ CONVENTIONAL WORKFLOW / DIGITAL WORKFLOW</td>
<td>86</td>
</tr>
<tr>
<td>Resource Development</td>
<td>92</td>
</tr>
<tr>
<td>The Impact of Digital Clinical Education</td>
<td>92</td>
</tr>
<tr>
<td>Technology Equipment to be Introduced — Clinical</td>
<td>93</td>
</tr>
<tr>
<td>Technology Equipment to be Introduced — Pre-Patient</td>
<td>94</td>
</tr>
<tr>
<td>Faculty/Staff Training Group Discussion</td>
<td>95</td>
</tr>
</tbody>
</table>
# Post-Graduate/Advanced Prosthodontics

## Introduction

Advanced Prosthodontics — Digital Dentistry

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Introduction to Digital Patient Care</td>
<td>100</td>
</tr>
<tr>
<td>II. Single-Unit, Tooth-, and Implant-Supported Patient Care</td>
<td>100</td>
</tr>
<tr>
<td>III. Full Arch Tooth-Supported and Implant-Supported Patient Care</td>
<td>101</td>
</tr>
<tr>
<td>IV. and V. Removable Prosthetics Patient Care — Complete and Partial Denture</td>
<td>102</td>
</tr>
<tr>
<td>Current Literature Review Sessions</td>
<td>102</td>
</tr>
<tr>
<td>Evidence-Based Reports</td>
<td>102</td>
</tr>
<tr>
<td>Course Materials</td>
<td>103</td>
</tr>
<tr>
<td>Course Requirements, Methods of Evaluation, and Grading Policies</td>
<td>103</td>
</tr>
<tr>
<td>Course Schedule</td>
<td></td>
</tr>
</tbody>
</table>

## Advanced Prosthodontics — Digital Dentistry Course Outline

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section I: Introduction to Advanced Digital Patient Care</td>
<td>107</td>
</tr>
<tr>
<td>Section II: Single-Unit, Tooth-, and Implant-Supported Patient Care</td>
<td>110</td>
</tr>
<tr>
<td>Section III: Full Arch Implant-Supported Patient Care</td>
<td>113</td>
</tr>
<tr>
<td>Section IV: Complete Denture Removable Prosthetics Patient Care</td>
<td>115</td>
</tr>
<tr>
<td>Section V: Partial Denture Removable Prosthetics Patient Care</td>
<td>117</td>
</tr>
</tbody>
</table>