



DIGITAL DENTISTRY CURRICULUM

FOR PREDOCTORAL AND ADVANCED EDUCATION

IN PROSTHODONTICS

ACKNOWLEDGEMENTS

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.

VOLUNTEER RECOGNITION

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.

Eva Anadioti

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

CURRICULUM DEVELOPMENT TEAM

Ekaterini Antonellou
Sun-Yung Bak
Ioana Bettios
Peter Boonsiriphant
Matthew Bryington
Richard Callan
Konstantinos Chochlidakis
John Coleman
Jerry Cooper
Alan Furness
Maria Gonzalez
Alfredo Hernandez
Negar Homayounfar
Anastasia Katsavochristoi
Ahmad Kutkut
Sang Lee
Mohamed Mansour
Patrick Mascarenhas

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

Radi Masri



Learning Objectives and Competencies

Intent Statement	9
Overall Competency	9
Single-Unit Restoration	11
Removable Prostheses	12
Suggested Assessment Plans and Evidence	13
Glossary	13

2

Curriculum Framework

PAGE 15

Introduction	17
Strategies to Implement Digital Dentistry in the Dental Curriculum	
Faculty and Staff Training	18
Information Technology	20
Predoctoral Digital Dentistry Courses	
Dental Anatomy	21
Operative Dentistry I and II	23
Preclinical Fixed Prosthodontics I	25
Digital Fixed Prosthodontics II	29

TABLE OF CONTENTS (CONT'D)

Radiographic Interpretation Cone Beam Computed Tomography (CBCT)	55
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

3

Implementation of a Digital Curriculum

C	ommunication Plan	6/
_	Communication Resources	67
	Additional Implemention Resources	67
	How to Establish a Digital Curriculum — Digital Implementation	68
	Information Technology — Critical Role	69
В	usiness Plan	70
	The Impact of Digital Clinical Education	70
	Glossary	70
	The UIC Experience	71
	The MUSC Experience	72
	University of Illinois at Chicago — Department of Restorative Dentistry	73
	> CONVENTIONAL WORKFLOW / PARTIAL DIGITAL WORKFLOW / COMPLETE DIGITAL WORKFLOW	73
	CONVENTIONAL WORKFLOW / DIGITAL WORKFLOW	74
	Medical University of South Carolina – Department of Oral Rehabilitation	85
	> CONVENTIONAL WORKFLOW / DIGITAL WORKFLOW SINGLE VISIT / DIGITAL WORKFLOW TWO VISIT OUTSOURCED TO COMMERCIAL LAB	85
	> CONVENTIONAL WORKFLOW / DIGITAL WORKFLOW	86
R	Resource Development	
	The Impact of Digital Clinical Education	92
	Technology Equipment to be Introduced — Clinical	93
	Technology Equipment to be Introduced — Pre-Patient	94
	Faculty/Staff Training Group Discussion	95

TABLE OF CONTENTS (CONT'D)



Introduction	99
Advanced Prosthodontics – Digital Dentistry	
I. Introduction to Digital Patient Care	100
II. Single-Unit, Tooth-, and Implant-Supported Patient Care	100
III. Full Arch Tooth-Supported and Implant-Supported Patient Care	101
IV. and V. Removable Prosthetics Patient Care — Complete and Partial Denture	102
Current Literature Review Sessions	102
Evidence-Based Reports	102
Course Materials	103
Course Requirements, Methods of Evaluation, and Grading Policies	103
Course Schedule	103
Advanced Prosthodontics – Digital Dentistry Course Outline	
Section I: Introduction to Advanced Digital Patient Care	107
Section II: Single-Unit, Tooth-, and Implant-Supported Patient Care	110
Section III: Full Arch Implant-Supported Patient Care	113
Section IV: Complete Denture Removable Prosthetics Patient Care	115
Section V: Partial Denture Removable Prosthetics Patient Care	117