Department Curriculum Review for Prosthodontics

I. Department Report
II. Questions and Responses

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Curriculum Review presented to Curriculum Committee, September 2014

THE UNIVERSITY OF IOWA
COLLEGE OF DENTISTRY
& DENTAL CLINICS

Departmental Curriculum Review

Date: 20 August 2014

Department: Prosthodontics

I. Department Mission Statement: *development a statement if none exists; also.*

(As posted on the Departmental website)

Our Mission

- To teach the predoctoral student the basic principles, concepts and practices of prosthodontics required for diagnosis and treatment of patients.
- To train specialists in prosthodontics, who are skilled clinicians with a strong research background.
- Continued advancement of knowledge in prosthodontics through basic and clinical research, and incorporation of cutting edge technology into our patient treatment and curriculum.
- To provide high quality patient service through our faculty private practice, our postdoctoral student program and our predoctoral student program.
- To provide continuing education and expertise in prosthodontics to the dentists of Iowa as well as the national and international community.

II. Describe how the department curriculum addresses the *Collegiate Characteristics of a College of Dentistry Graduate*

Technical Competence:

- Our department provides the knowledge core for basic materials science as well as the clinical science associated with prosthodontics. The students are taught technical and fine motor skills preclincally, then in their D3 clerkship they are guided through making the transition from procedures performed on typodonts to actual patients.

Critical Thinking/Judgment:

- Prosthodontics provides a significant and vast knowledge core for basic materials science as well as the clinical science associated with dentistry, however does not introduce the principles of critical thinking. The application of critical thinking is taught for simple procedural treatment planning. Our department applies introspection to all techniques, materials and principles taught.

Ethical & Professional Values:

- The D3 clerkship in prosthodontics requires the synthesis of preclinical core knowledge into clinical care that reflects the ethical and professional standards of patient treatment and management.

Social Responsibility:

- The clinical management of patients in the D3 year requires that the student become socially interactive with patients from all aspects of our community.

Function in a Disciplined/Collegial/Professional Setting:

- The prosthodontics curriculum contains self, peer and faculty evaluation and feedback, a vital interaction to promote a "team" mindset amongst students, who will be role models in the future.

Patient/Practice Management:

- The D3 clerkship requires the student become an interactive learner and manage their practice through effective communication with faculty, peers, staff and patients.

Self Assessment:

- Prosthodontics is perhaps the specialty requiring unbiased self-scrutiny. While this can dishearten students, we use self and peer evaluation as daily feedback to encourage lifelong learning and improvement. Grading is based, in part, on the student's ability to recognize deviation of their work from standardized examples.

III. Include department organizational structure and how it fulfills the department's mission and *predoctoral accreditation standards.* Attach appendix

(Please see Appendix I)

The department head (DEO) is responsible for the overall curricular vision of both predoctoral and postdoctoral education within the department. The head teaches didactically and clinically in both the predoctoral and post-doctoral programs. Almost all the faculty in the department are responsible for course directorship in the D1 and D2 years. While not a course director, they are required to act as support instructors in other courses (as noted by the horizontal arrows in Appendix I), as well as provide clinical instruction in the D3 clerkship. Faculty also serve as lecturers in the preclinical sequence, allowing vertical integration and reinforcement of previously taught concepts. New faculty are assigned to the entire preclinical curriculum so they are oriented to what the students are taught and the philosophies of the College/Department. Therefore during any semester, a faculty may: be a course director, teach in another course, teach in the D3 Clinic and teach in the graduate clinic – quite a full schedule. One faculty, who also screens all patients coming into the College for assignment to dental students for restoration and residents for surgical placement, directs the D2 implant course as well. Select faculty are also chosen to teach at the postdoctoral level.

IV. Provide profiles for each course: *additional rows can be added as needed.*

Year	Course No.	Course Director/Co-Director	Format: *lecture, seminar, PBL, CBL, simulation lab, clinical, etc.*	Faculty:Student Ratio
D1	8120	Holloway	Lecture	1:82
D1	8121	Holloway	Simulation lab and bench lab	1:9
D1	8122	Gratton	Lecture	1:82
D1	8123	Gratton	Simulation lab and bench lab	1:9
D1	8124	Bohnenkamp	Lecture	1:82
D1	8125	Bohnenkamp	Simulation lab and bench lab	1:9
D2	8240	Boza	Lecture	1:82
D2	8241	Boza	Simulation lab and bench lab	1:9
D2	8242	Gratton	Lecture	1:82
D2	8243	Gratton	Simulation lab and bench lab	1:9
D2	8244	Lund	Lecture	1:82
D2	8245	Lund	Simulation lab and bench lab	1:9
D2	8246	Huang	Lecture	1:82
D2	8247	Huang	Simulation lab and bench lab	1:9
D2	8250	Holloway	Simulation lab and bench lab	1:9
D3	084:160	Lindquist/Clancy	Clinical	1:7
D3	084:165	Lindquist/Clancy	Seminar	1:41

V. Describe how *horizontal* curriculum integration is achieved with other departments, courses, and/or learning activities. Note current achievements and highlight areas, topics, or disciplines that need further improvement.

(Please see Appendices II and III)

The new curriculum structure (see attachment IIa), which will be implemented in Fall 2014, has been designed with feedback from faculty, students, and the content of courses from other departments. As seen in Attachments IIb and c, the new D1 occlusion course was designed to fit seamlessly with Dental Anatomy, taught by the Operative Department, so that skills and knowledge taught in the Occlusion course build upon the previous course's content. The integration of digital dental technology has been spear-headed by our department and other

departments have adhered to the digital technology incorporation timeline. The new prosthodontics preclinical curriculum has been entirely rearranged to introduce topics that build upon one another; a progression from simple to more complex concepts and skills. This means that denate occlusion is introduced *before* edentate occlusal schemes, a simpler concept for D1 students to grasp (Attachment IIc). It also starts students using a highspeed handpiece for extracoronal tooth preparation in January of their D1 year, instead of the beginning of their D2 year. This was done purposefully with the intent of improving fine motor skills and self-assessment to identify those who may need additional assistance early in their dental education. The changes in the prosthodontics curriculum reflect current trends in private practice in the state, which show a significant increase in all-ceramic crowns and implant procedures in the state over roughly the last decade (see Appendix IV). The curricular modifications have been designed also with vertical integration in mind and should prepare students for success in the D4 year and beyond to general practice. Student feedback regarding class length also guided the division of several larger courses into smaller, content-driven modular courses. This allows students to feel a sense of accomplishment at several points during the year and more frequent feedback through course grades to monitor their progression in learning and skills.

VI. Describe how *vertical* integration across D1 through D4 courses, including with other departments and/or learning activities. Note current achievements and highlight areas, topics, or disciplines that need further improvement.

(Please see Appendices II and IV)

The fixed curriculum now extends almost the entire preclinical years. This allows a more vertical integration of knowledge and skills in preparation for actual patient care. Also, the courses responsible for treatment of edentulous patients has been moved from the D1 to the late D2 curriculum (see Appendix IId). This change in sequence allows students to build knowledge from simple (single tooth) to more complex (entire arch) occlusion concepts. It also puts a more case-based, clinically relevant topic closer to entry into the clinic (Appendix IIe). The new course structure has also been altered according to feedback from faculty in the Family Dentistry department. A committee consisting of Drs. Holmes, Holloway, Clancy, Diaz-Arnold, Lindquist and Spector has met several times over the past year to discuss how to make the progression from D3 to D4 year more seamless. The changes in the prosthodontics curriculum fill gaps in content and allow sequential acquisition of knowledge and skills that will be integrated into the concept of comprehensive care in the D4 year. From feedback gained from another department (Family Dentistry), the preclinical courses also now include lectures and hands-on laboratory experience with restorations for foundations and endodontically-treated teeth. The basic knowledge introduced in the D1 year is built upon in the D2 year. Additional new information is introduced in the D2 year, which is then reinforced when applied in the D3 clinic. Finally, advanced concepts and alternatives are presented in the D4 year seminars, while clinical speed and consistency are further developed. It has been very helpful to work with the Family Dentistry faculty and we welcome further collaboration. Prosthodontics also works closely with the Operative department, we would welcome discussion of foundation restoration recommendations in the future.

VII. Describe efforts in faculty development to calibrate teaching styles, techniques, outcomes assessment methods and a unified grade scale.

The department faculty meet twice a month to address departmental teaching issues. Discussion covers areas for improvement or change, as well as announcements to the entire faculty. Each year, 4-5 of these meetings is devoted to assessment of clinical and laboratory teaching. Each lecture before a laboratory session describes the goal for the day to the students. As the students transition to the lab, the faculty also discuss expectations for grading for the day's project. Newly instituted meetings prior to the D4 year also prepare Family Dentistry group leaders to address individual student strengths and weaknesses when entering their last year of formal education.

VIII.	Does the curriculum mapping system appropriately reflect what you teach in the discipline specific predoctoral curriculum? List the information gap(s).
	**Verify all courses have been mapped in the Collegiate "Course Mapping"*
Yes, all existing courses have been mapped. Course directors entered the data last year, they will update the data each year because the College competency language (and numbering system) has changed. Proposed courses are in process, using the new syllabus format. The preclinical course directors felt that summative evaluations were not a part of our curriculum, but it is applicable for competency 5c (CODA 2-23h) "Preclinical Prosthodontics. Summative evaluations of student learning do take place, but the curriculum mapping system will need to be updated to reflect this. The department has had many discussions about the term "competency" and "competent" being used to describe the D3 clerkship experience. It is felt that the procedural testing done in the D3 year is really only a milestone towards true competency. If that is the case, then evaluation in the D4 year must include standardized summative evaluations and the results need to be reported back to the department responsible for the knowledge core.	

IX.	What major issues face the department that may require change(s) to the predoctoral curriculum?
Since this is a new curriculum, most issues gathered from student and faculty feedback have now been addressed. Ongoing feedback (outcome measures such as student evaluations, test scores, and faculty evaluations) will be used to modify course content, timing and sequencing in the future. The impending retirement of key faculty is the most important issue to address from the department at this time. With such a large teaching load, the department will need a cadre of enthusiastic individuals to keep the curriculum and student achievement moving forward. The support of staff is also crucial to the department's teaching efforts, in particular the laboratory support and teaching provided by Mr. Steve Vercande is highly valued.	

X.	Describe curriculum changes that are a result from student feedback.
(Please see Appendix V) Many of the curricular changes made by our department were due to student course evaluations. The written comments from students tend to be the most helpful in guiding meaningful curricular change. However, the current form does not allow comparison between courses because there is no scale from which to derive a mean score in any particular area. While it is not appropriate to compare a one hour/week lecture course in one department to a four hour lecture/lab course that meets twice a week, it would be very helpful to be able to compare evaluations within the same teaching genre. As it exists now, indicators for change can only be drawn from raw data and trends in student feedback. Appendix V shows a compilation of student course evaluations for the last three years. Examples of changes made as a result of student feedback include: reduction of the long length of preclinical courses, reorganization of courses so the they flow from less complex to more complex theories or skills, and shorter lectures to allow more time on lab. Many course evaluations were critical of faculty interactions, therefore ongoing mentoring is being employed to modify faculty behavior. The prosthodontics department has an extremely large didactic and technical responsibility spanning the first three years of dental school. Breaking up large courses into smaller modules also was introduced as a means to relieve faculty from year-long intensive course directorship, which is stressful for students, faculty and the entire department.	

XI. Is the scope of the discipline-specific treatment procedures taught appropriate for a new graduate, general dentist? Include references for inclusion/modification/deletion relative to the current state of private practice, i.e. insurance data, etc.

(Please see Appendix IV)

Some of the curricular changes made by our department were due to current trends in clinical general practice. As seen in Appendix IV, the two main areas of change in frequency of Delta Dental of Iowa billed procedures are marked increases in all-ceramic crowns and implant restorations performed. To address these trends, all-ceramic crowns are now the first crowns taught our students and implant instruction and experiences have been increased.

XII. Include comments to indicate department efforts toward a prospective analysis of the predoctoral curriculum and list other changes under consideration that may require collegiate support.

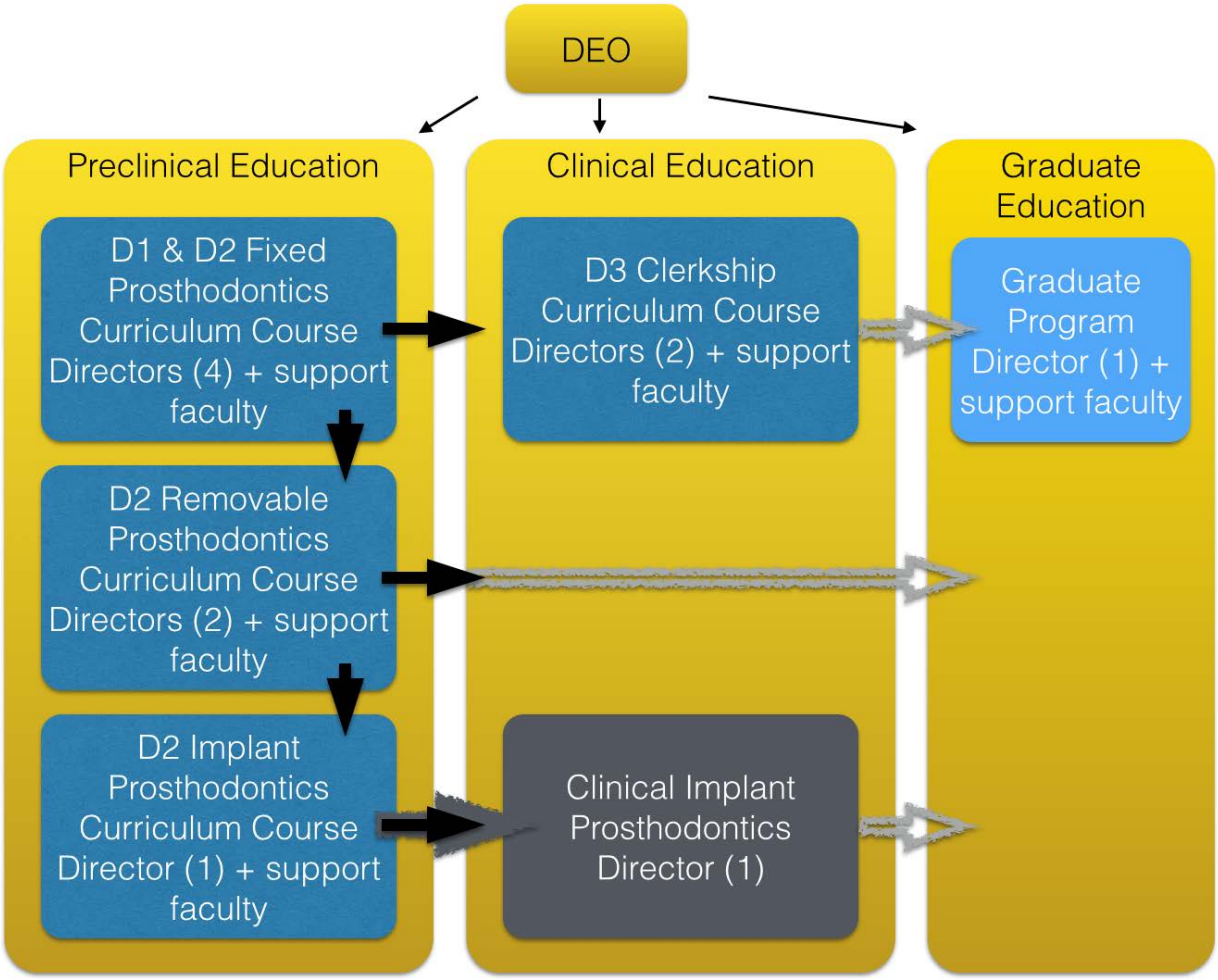
Next year, students who have been trained in digital dentistry preclinically will begin their clinical experiences. Their speed in tooth preparation as well as digital design will prevent our students from fully realizing the benefits of this technology unless we have a digital dental designer that can produce a restoration (whether it be a milled interim restoration or final restoration) for seating that day.

XIII. What resources directly related to curriculum management would facilitate your ability to fulfill the teaching mission? *(Time, space, faculty development, course support, etc.)*

The essential element that allows our uniquely "Iowa" clerkship system from falling apart is adequate patient numbers. We are falling dangerously close to failing to provide those experiences for our students.

Working with a dental assistant is limited to students working with their classmates and faculty stepping in to help. While assisting peers may be beneficial for students when their own patient cancels, it is not a productive use of faculty time. Faculty often finish procedures for students just so the patient can leave in a timely manner, lessening the opportunity for constructive student feedback. One "floating" assistant would be so beneficial to the efficiency of our teaching efforts and patient care.

Appendix I – Department organizational structure



Appendix IIa – Prosthodontic curriculum overview

D1

8/25 - 10/10/2014		10/14 - 12/19/2014		1/5 - 3/13/2015		3/23 - 6/19/2015
		PROS 8120 & 8121		PROS 8122 & 8123		PROS 8124 & 8128
	ACP	Treatment of Dentate Patients: OCCLUSION	WINTER BREAK	Treatment of Dentate Patients: Fixed Prosthodontics (Single anterior tooth) ACC	SPRING BREAK	Treatment of Dentate Patients: Fixed Prosthodontics (Single posterior tooth) CVC
		Holloway		Gratton		Bohnenkamp

D2

8/20 - 10/10			10/14 - 12/20		1/5 - 3/10		3/24 - 6/20
PROS 8240 & 8241		PROS 8242 & 8243			PROS 8244 & 8245		PROS 8246 & 8247
Treatment of Partially Dentate Patients: Fixed Prosthodontics FDP	ACP	FDP Cont.	Treatment of Partially Dentate Patients: Implant Prosthodontics STI	WINTER BREAK	Treatment of Partially Dentate Patients: Removable partial Prosthodontics RDP	SPRING BREAK	Treatment of Edentate Patients: Removable Prosthodontics CD
Boza			Gratton		Lund		Huang

D3

8/20 - 10/10		10/14 - 12/20		1/5 - 2/1	2/4 - 3/10		3/24 - 6/28
CLERKSHIP 1	ACP	CLERKSHIP 1	WINTER BREAK	CLERKSHIP 1	CLERKSHIP 2	SPRING BREAK	CLERKSHIP 2
Lindquist/Clancy					Lindquist/Clancy		

Appendix IIb – Horizontal prosthodontic curriculum integration

Topic introduction sequence

Dental Anatomy
(OPERATIVE DEPARTMENT)
- tooth numbering
- tooth anatomy
- scanning (evaluative)

D1 Occlusion
- alginate
- gypsum
- occlusion
- mandibular movement

D1 Fixed (anterior)
- tooth preparation
- digital scanning
- Interim crowns
- ceramics

D1 Fixed (posterior)
- impressions
- (poly)vinyl siloxane
- alloys
- cements

D2 Fixed (FDP)
- diagnosis
- treatment planning
- biomechanics
- color science
- pontic design
- metal-ceramics
- polishing

D2 Implant
- titanium
- dental implants
- implant surgery
- complications
- surgical guides
- foundations
- post & cores

D2 RDP
- surveying
- RDP design
- relines
- interim RDPs

D2 Dentures
- acrylic
- denture base contours
- balanced occlusion
- single dentures
- record bases/occlusion rims
- maxillomandibular relations
- clinical remount

D3 Clerkship
- patient assessment
- comprehensive treatment planning
- treatment sequencing
- ethical values
- critical thinking (clinical)
- time management (clinical)
- patient management

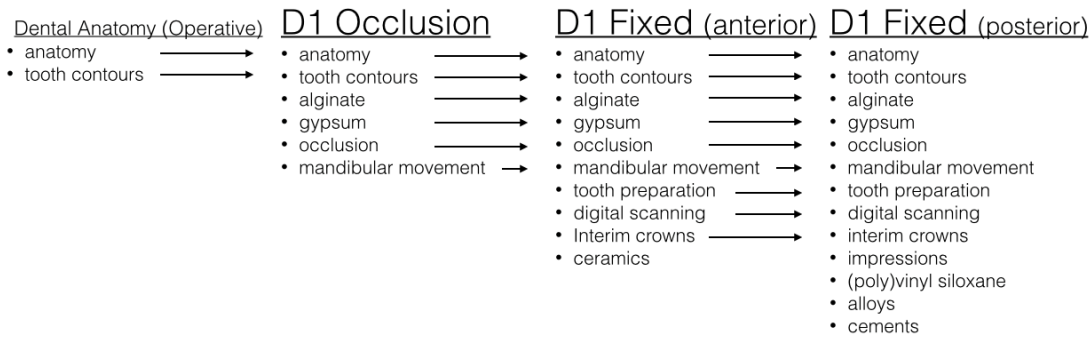
Family Dentistry
(FAM. DENT. DEPARTMENT)
- key tooth concept
- treatment planning
- treatment sequencing

- alternative post & core techniques
- complete & immediate dentures
- occlusion

Appendix IIc – D1 horizontal prosthodontic curriculum integration

D1 horizontal integration

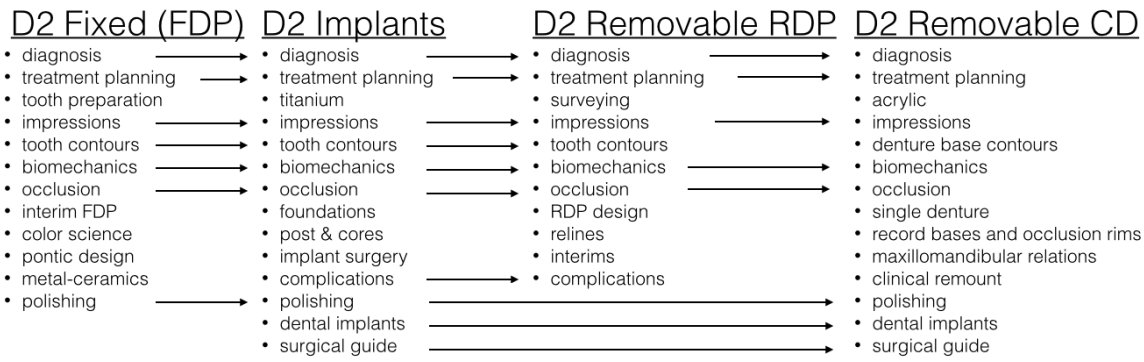
(treatment of dentate patients)



Appendix IId – D2 horizontal prosthodontic curriculum integration

D2 horizontal integration

(treatment of partially-dentate and edentate patients)



Appendix IIe – D3 horizontal prosthodontic curriculum integration

D3 horizontal integration

(Clinical treatment of dentate, partially-dentate and edentate patients)

First clerkship group

D3 Clinic (clinical instruction)	D3 Clinic (seminar topics)
• anatomy	
• tooth contours	
• alginate	
• gypsum	
• occlusion	
• tooth preparation	
• digital scanning	
• interim crowns	
• impressions	
• (poly)vinyl siloxane	
• alloys	
• cements	
• diagnosis	
• treatment planning	
• impressions	
• denture base contours	
• biomechanics	
• occlusion →	• occlusion
• single denture →	• dentures
• record bases / occlusion rims →	• record bases / occlusion rims
• maxillomandibular relations →	• maxillomandibular relations
• clinical remount →	• clinical remount
• RDP design →	• RDP design
• relines →	• relines and rebases
• interim RDPs →	• Interim RDPs
• polishing	
• dental implants	
• surgical guide	

Second clerkship group

D3 Clinic (clinical instruction)	D3 Clinic (seminar topics)
• anatomy	
• tooth contours	
• alginate	
• gypsum	
• occlusion	
• tooth preparation	
• digital scanning	
• interim crowns	
• impressions	
• (poly)vinyl siloxane	
• alloys	
• cements	
• diagnosis	
• treatment planning	
• impressions	
• denture base contours	
• biomechanics	
• occlusion →	• occlusion
• single denture →	• dentures
• record bases / occlusion rims →	• record bases / occlusion rims
• maxillomandibular relations →	• maxillomandibular relations
• clinical remount →	• clinical remount
• RDP design →	• RDP design
• relines →	• relines and rebases
• interim RDPs →	• Interim RDPs
• polishing	
• dental implants	
• surgical guide	

Appendix III – 2002/2012 dental procedures from state benefits provider (Delta Dental of Iowa)

Prosthodontic Related Procedures
Dates of Service in 2002 and 2012

Fixed Prosthodontic Procedures

Procedure	**Code(s)**	**2002**	**2012**
Composite crown	2710	20	55
All-ceramic crown	2740	3,255	21,400*
High Noble MCC	2750	20,371	16,312
Base Metal MCC	2751	7,367	4,768
Noble MCC	2752	8,971	6,563
High noble alloy crown	2790	7,098	3,178
Base metal crown	2791	708	556
Noble alloy crown	2792	1,083	1,017
	6210; 6212; 6240; 6242;		
Pontics	6245	3,460	3,107
Cast post and core	2952	1,087	660
Prefabricated post	2954	4,195	3,719

Removable Prosthodontic Procedures

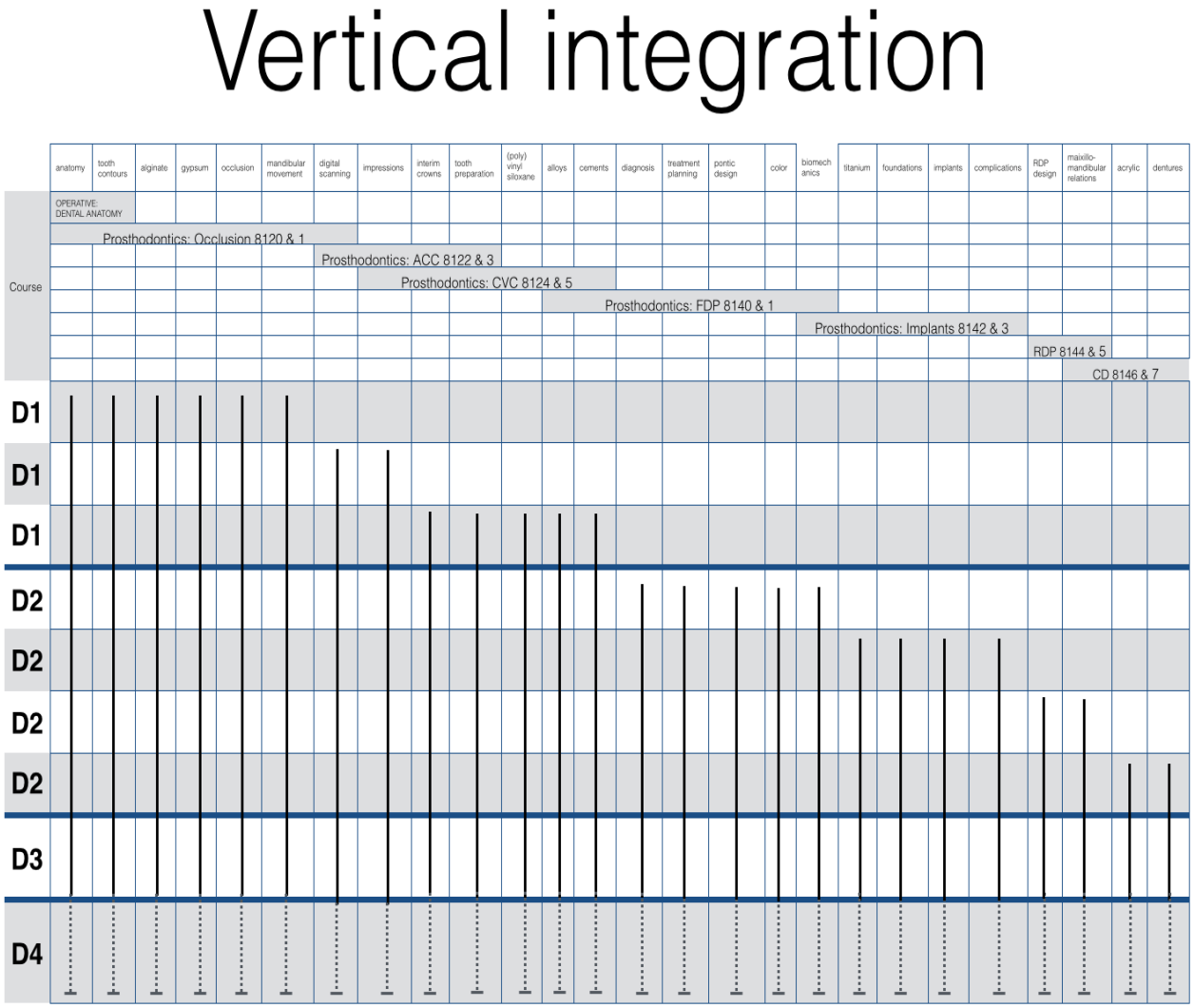
Procedure	**Code(s)**	**2002**	**2012**
Complete dentures	5110; 5120	1,763	1,546
Immediate dentures	5130; 5140	732	1,175
Removable partial dentures	5213; 5214	2,073	1,800
Overdenture	5860	20	10

Implant Prosthodontic Procedures

Procedure	**Code(s)**	**2002**	**2012**
Implant surgery	6010	455	2,761
Implant sx guide	6190	N/A	364
Prefabricated abutment	6056	57	1,178
Custom abutment	6057	55	972
	6058; 6059; 6061; 6062; 6065; 6066;		
Implant crowns	6067	317	2,320*
Total		**63,087**	**73,461**

*denotes a significant increase

Appendix IV – Vertical curriculum integration



Appendix V – Summary of student feedback

PROS 84:122	PROS 84:123	PROS 84:140	PROS 84:141	PROS 84:142	PROS 84:143	PROS 84:146	PROS 84:160	PROS 84:165
Occl/CD lect	**Occl/CD lab**	**Fixed lect**	**Fixed lab**	**RDP lect**	**RDP lab**	**Implant**	**Clerkship clinic**	**Clerkship seminar**
Unorganized	Instructor calibration needed	Great organization	Faculty calibration needed	clearer test objectives	daily grades subjective	Need clearer objectives	Disrespectful faculty	Clarify objectives, too vague
Lecture fit with lab	Not enough lab time	metals lecture too long	Videos were helpful	Announce OSCE at beginning of semester	correct grading sheet in manual	Don't print notes or manuals	Denture fabrication not standardized	Clear explanation of what would be on the lab ID exam
Poorly written exams	grade scale	More time at each OSCE station	More lab time needed	Don't print notes or manuals	standardize instructors to "Master" drawings	Follow planned schedule of events	Tally points (RVU's?) like Fam Dent.	Post all lectures
Keep it simple	No elmo demos		sign off sheet for faculty was appreciated	lectures too long	homework to reinforce, no new tube teeth	Poor organization	Not enough patients	Unify RDP design concepts-stick with D2 course info
lectures shorter	need clear lab objectives			clickers	Master drawings must be perfect	More introduction about placement at beginning	Grading subjective, don't know what it means	Post on ICON
Hard to understand instructor				more concise		Why all practicals on last day?		Poorly written exams
						Add alginate and/or scanning competency at beginning		Blind notes if used for examples
						Don't scan right before Endo competency		
						Divide lecture and lab		
						Update entire manual		

Executive Summary

2014 Curriculum Review – Prosthodontics – DEO Julie Holloway

Process:

A document was received by the Peer Curriculum Review working group. Members of the group reviewed the document individually and then met twice to discuss comments and questions. The working group leader then collated all comments and questions to create a summary document. This was then presented at a full Curriculum Committee meeting along with Dr. Holloway's departmental presentation. Of the remaining questions we had, most were answered either through Dr. Holloway's presentation or would be discussed afterward. Other questions were brought forward by other committee members, some of which were answered. The working group was then asked to create an executive summary, which is the current document. For the future, we thought it might be more helpful to have the DEO of the department in review be present at the working group meeting(s) to clarify and answer questions ahead of time.

Questions per Section:

II.

- Does this also include information and skills to pass the Pros portions of national and regional board exams?
  - **Of course. We believe the desirable characteristics of a college of dentistry graduate include being able to pass the Boards. Do we teach a "Here's how to pass the board exam?" – No. The information and skills must be adequate, given our students' outstanding scores on the prosthodontics portion of the national boards.**

- Would critical thinking be involved in learning to choose the correct material?
  - **As we noted, we do not INTRODUCE critical thinking, however the application of critical thinking is required in treatment planning. We consider part of the treatment plan to be the material used, since it must be put in Axium as the correct ADA code according to material prescribed. Critical thinking skills are also highly stressed in the selection process of prosthesis design.**

- Although you may not teach it directly, would it not also be involved in evaluating restorability, case selection, key tooth concepts and treatment planning?
  - **We have asked to add restorability to a D4 lecture, along with direct post systems. It is not really critical thinking – in general, just the application of a set of rules. The D3 students do not get comprehensive treatment planning in the clerkship – it is done in the D4 year. We do not teach key tooth concepts in the clerkship since that is a comprehensive treatment concept. Some case selection, treatment planning and sequencing are taught in the D3 year and additionally on a case-by-case basis.**

III.

- Please address how accreditation standards are addressed. (From the main question)
  - **This question asks about department structure, does department structure fulfill accreditation standards? Maybe rewrite question to make more clear what is being asked. For standards, please see course mapping. I originally included them as an Appendix, but removed them at Dr. Garcia's request.**

IV.

- Could course titles and semester hours be added to the table? It could become a standard format in the review outline.
  - **That is a great suggestion and would make it easier to complete as well.**
- Course 8250 – is there a lecture component with this course, like the others?
  - **No, simply a planning and time management exercise to prepare them the exercise and for clinic.**
- 084:160 and 084:165 – these are old course numbers?
  - **Yes**
- Could they be updated like the rest of the courses?
  - **That would be great, we will need to consult with Dr. Garcia.**
- Maybe even show both until we all get used to the new numbers.
  - **OK, good idea as well. FYI-our registrar will go by the old MAUI number no matter what, so it is confusing to put the new course number on the syllabus……**
- Is there any D4 involvement?
  - **In what, our D1-D3 courses? No.**
- A clinical co-director?
  - **Of what? Dr. Diaz-Arnold teaches in the Pros Clerkship 1 day/week and Dr. Clancy teaches in Family Dentistry 1 day/week. We have had this "cross-pollination" for almost 2 years now.**
- Lectures as part of any D4 courses (Topics in FAMD)?
  - **Pros faculty lecture to the D4 students. 1: Gratton (n=9X2 groups=18 lecture sessions) – PARTS OF THIS MAY BE REDUNDANT, 2: Holloway (n=6x2 lecture sessions). No FAMD faculty lecture in any Pros courses, however Drs. Williamson and Spector have occasionally been bench instructors in the preclinical denture course.**

V.

- Were any areas identified for further improvement? (From the main question)
  - **The most glaring areas (denture course comprehension level and timing) have been addressed, it required a lot of thought due to the upheaval it could cause. Individual course improvement is ongoing.**
- This section seemed a bit more about vertical integration than horizontal, but the WG realizes that we need to better define what we mean by those terms.

VI.

- This section seemed a bit more about horizontal integration than vertical, but as above, the WG realizes that we need to better define what we mean by those terms.

VII.

- We would have liked a bit more explanation in this section.
  - **Perhaps it would be better to break this question into several parts. It is very broad, I think you would all get better information if broken in to more focused, smaller portions.**
- There is no mention of D3 to D4 transition.
  - **It was answered in section VI.**
- No faculty calibration was discussed.
  - **"Each year, 4-5 of these meetings is devoted to assessment of clinical and laboratory teaching." That is our calibration.**
- Students wanted more transparency in grading.
  - **Students are asked to self-evaluate each project. The faculty then grades the project with them. We strive to not only provide feedback, but to have students evaluate the same way we do. This may be a more recently emphasized part of the new courses, but has been essentially in place for at least a couple years.**
- Examples were given where students reported not being sure what type of grade they were receiving.
  - **Each daily feedback sheet is returned to the student, it shows their self-evaluation along side the instructor's grade.**
- Students also felt that the D3 pretest was not the same information as they received in D1 and D2.
  - **The D1 and D2 course instructors WHO TAUGHT THE COURSES write and review the questions each year.**

- Students were concerned about a "weak link list" and wanted transparency regarding this list.
    - **As mentioned before, the past two years have been perhaps the most collaborative *ever* between Prosthodontics and Family Dentistry on many levels. Meetings addressing those same student issues have been held and the outcome has been to benefit the students' learning. The thought is that the weakest students would *want* increased faculty attention towards timely graduation. The converse would be to let them flounder along and not graduate on time, or just graduate them all regardless of readiness to serve the public. Neither is of those choices is in anyone's best interest.**

VIII.

- What happens to cases that are started in the D3 year and finished in the D4 year?
    - **Our faculty actually go to Family Dentistry to ensure completion. We coordinate the faculty coverage and assignment of RVU's/D3 clerkship is collaboratively accomplished by Drs. Holmes and Lindquist.**
- Who follows that competency and that it is completed to the proper level?
    - **Mostly Dr. Clancy and Dr. Holmes.**
- If there are no summative clinical evaluations in D3 Pros, where do they occur and who evaluates them?
    - **What we used to call "competencies" in the D3 clerkship are more formative procedural than summative, the summative evaluations of how students put it all together falls to FAMD. The 2 diagnostic competencies in the D3 Clerkship are the only ones that are summative in the D3 year.**
- Is FAMD involved in this process?
    - **Yes, you would have to ask them about specifics of their clinical year though. We collaborate quite a bit but I don't want to put words in their mouth.**

XII.

- Will more faculty be trained in digital dentistry to help supervise all the students who have already been trained?
    - **As soon as we get a digital technician to keep educating newly recruited faculty….. ☺**

Appendix I

- Could all years, D1-D4, be added to this chart, whether anything is taught or not? Would there be anything to put in the D4 year? (This chart could be a template for future departments and make comparison easier)
    - **That was not requested, but sure.**

Appendix IIa

- Please define all the abbreviations, ACC, CVC, FDP, etc.
  - **ACC: All-ceramic crown**
  - **CVC: Complete veneer (all gold) crown**
  - **FDP: Fixed dental prosthesis (bridge)**
  - **STI: Single tooth implant**
  - **RDP: Removable dental prosthesis (partial)**
  - **CD: Complete denture**

- Where is course 8250 on this chart?
  - **It is so tiny, it didn't show. My fault in trying to make the size of the boxes representative of the amount of time spent in each course.**

- Could course numbers be added to the 3rd row in the D3 year to correlate with the list in IV?
  - **Yes, they have not been renumbered yet and I thought it might get confusing. Pardon my omission.**

- Anything related to the D4 year?
  - **We are not course directors in the D4 year.**

- Are D4 instructors involved in any of these classes?
  - **Occasionally, as faculty numbers support. See section IV, question 8.**

- Will the rearrangement of courses still support students when taking board exams?
  - **Yes.**

- What will be the process if a student fails or cannot complete one or more of these modules?
  - **We have a had a remediation process in place for quite a while, but has been a subject of ongoing discussion.**

- Will remediation be available?
  - **Yes, remediation currently takes place within each course. We have planned the modules that they can proceed within a year, but not beyond each year without repeating a course.**

- Will this stop them from moving onto the next module?
  - **No, it can prevent them from moving to the next year if they fail remediation twice.**

Appendix IIb

- Key tooth concepts are listed in FAMD. Are these given equal emphasis in the prior years?
  - **No, our cases do not require the use of key tooth concepts.**

- Topics such as nightguards, occlusal splints, TMJ management are not listed here. Are they taught elsewhere in the curriculum?
  - **OPRM has always taught those subjects. A new lecture on introduction to TMD was instituted this year, including an explanation of an occlusal device.**

Appendix IIc

- Are there other departments that you collaborate with in the D1 year?
    - **None other than Operative.**

Appendix V

- Feedback from 4 courses mentions "unclear objectives." Will this be reviewed/addressed in each particular course?
    - **Yes.**
- Include new course numbers here again for easier comparison
    - **OK**
- Could a summary of the results of the objective course evaluation questions be provided for each course, which could be compared?
    - **Yes, perhaps that would be a better way to state that question. Compared to what – a lecture course? An anatomy or physio course? As a personal comment, I am strongly opposed to our rather vague course evaluation forms being used for purposes that they were not designed to do. This is an area for improvement, let's please devise a tool for doing so.**
- Can student feedback be clarified? For example: What does "clickers" mean, do they like or not like? Or "No elmo demos" – does this mean they don't want them or there weren't any and they did want them?
    - **As you can see, the quality of student feedback is sometimes lacking. Welcome to our world. Our job is to teach an enormous amount of material AND skills and it is sometimes difficult to decipher the constructive criticism from the students' own frustration in being challenged in a way they have never been before. Again, please let's devise a tool that allows for constructive feedback.**

Strengths:

Overall the report was positive and well-written and a good critical review.

This shows the enormous amount of material taught in the pre-doc prosthodontics curriculum.

Creation of modules seemed very logical, breaking up information for both students and faculty, but keeping an overall timeline to students can still see continuity.

Flowcharts were very helpful to understand overall curriculum and could be used as models going forward.

Insurance data was very interesting, and a great way to discover what students may encounter in private practice, what technology is being used and to help revise curriculum.

That was Dr. Garcia's idea – a great one indeed.

The newly instituted meetings prior to the D4 year were a welcome addition and allows for the possibility of more personalized attention to students.

Recommendations:

Limit information to pre-doctoral mission and curriculum in reviews.

Good! ☺

More calibration of content, faculty and grading vertically and horizontally, especially as new faculty are hired to replace retiring members.

Agreed, our content is very well calibrated. Faculty grading calibration is ongoing.

More interaction with students for feedback and transparency since Prosthodontics is such a huge part of the curriculum, making it high stakes. Some ideas are requiring course evaluations, holding focus groups, having anonymous clicker sessions, or student progress meetings on some regular schedule.

We DO require course evaluations, but the ongoing issue of timing is NOT our fault. We have asked that the students have the opportunity to take a final exam before we ask them if it was fair. There is a limited time window for this before grades are due. We need to fix this.

We do have student liaisons now, which is very helpful. How and when would you propose to have student progress meetings for 80 students? Our faculty already show up before 8:00 and stay after 5:00 on a daily basis to provide guidance and support to students. Perhaps another faculty line is needed to provide the groups, sessions and meetings that are being requested.

More involvement/interaction/continuity into the D4 year. It appears somewhat disconnected from the first 3 years.

We have provided all we have been asked to in order to prepare the students for the D4 year, and more. We have some "cross-pollination" of faculty. We have had over 20 meetings with FAMD to ease the transition and have responded with more content and teaching. Frankly, the issue of continuity rests also with Family Dentistry. Is the newest information that is being generated by our world-class faculty teaching the D1-D3 years being taught in the D4 year? I grasp the enormity of getting adjuncts to "teach the party line", but we are committed to EBD and not "what works in MY practice". Perhaps the other departments have insight about this as well.

Consider providing manuals and notes only in electronic form, on ICON for example. (This has been done successfully in other clerkships).

Already done, but not without its hiccups in the preclinic. Students are adjusting to the electronic format, as well as faculty. There is still something "foreign" about not having a "cookbook" course manual under all our noses.