



College of Dentistry and Dental Clinics

Office for
Education

Department Curriculum Review for Orthodontics

I. Department Report

Work Group: Drs. Z. Al-Salihi, T. Mabry, and Mr. L. Fritsch (D2-DS representative)

Curriculum Review presented to Curriculum Committee, December 2017.

Date:

Department:

I. Department Mission Statement: <i>develop a statement if none exists.</i> Our mission is to educate dentists for Iowa and beyond through excellence in patient care, education and research. GOALS : 1) Provide the highest quality education to prepare our graduates to deliver general dental care in a changing environment in Iowa and beyond. 2) Maintain nationally recognized advanced training programs in all dental specialties and selected clinical disciplines 3) Advance research and scholarship in oral, craniofacial and general health. 4) Maintain an effective patient care program to meet the needs and expectations of our patients. 5) Recruit, retain and nurture a vital, diverse and collegial faculty. 6) Provide a productive and supportive work and learning environment. 7) Serve as a resource to the University, the profession and the state.

II. Describe how the department curriculum addresses the <i>Collegiate Characteristics of a College of Dentistry Graduate</i> Technical Competence: The D2 didactic Orthodontic courses provide a knowledge and understanding core for evaluation of malocclusions, facial growth, and facial development. Critical thinking/Judgment: A case-based learning experience in the D2 year addresses critical thinking/judgment in orthodontic evaluation of malocclusions. Ethical and Professional Values: Our didactic D2 courses do not address ethical and professional values Social Responsibility: Our didactic D2 courses do not address social responsibility Function in a Disciplined/Collegial/Professional Setting: Students are expected to demonstrate respect to peers, patients, staff and faculty members throughout the D2 year. Patient/Practice Management: Our D2 courses do not address patient / practice management Self-Assessment: Self-evaluation is included in daily clinical evaluations and competency evaluations in the D2 laboratory course to encourage lifelong learning and improvement.

III. Include department organizational structure and how it fulfills the department's mission. Attach appendix, if necessary.

The Departmental Executive Officer, Dr. Tom Southard, serves as coordinator of the planning and support for implementation of the predoctoral education program. Drs. Jones and Holton are the course directors of the D2 courses and provide the vision, innovation, and follow-through for all aspects of these courses.

Departmental faculty members lecture in D2 lectures. This provides a solid foundation for vertical integration of concepts within the discipline.

Curricular planning is based on ongoing review of D2 content that takes into consideration:

- 1) Our overall goal of graduating a general dentist who is competent in the identification of malocclusion
- 2) Reinforcement and building upon key concepts of patient evaluation, treatment planning and therapy
- 3) Inclusion of contemporary, up-to-date concepts
- 4) Incorporation of evidence based dentistry
- 5) Vertical integration within the D2-D3 curriculum
- 6) Horizontal integration with other disciplines
- 7) Patient pool factors
- 8) Enhancement of teaching and learning effectiveness, ie through case based teaching

Ideas for curriculum improvement are discussed during departmental meetings. Plans for improving horizontal integration with other departments occur through small group faculty meetings. Annual teaching in-services provide a venue to present completed projects and implementation plans. This is an ongoing process.

IV. Provide profiles for each course: <i>additional rows can be added as needed.</i>				
Year	Course No.	Course Director/Co-Director	Format: <i>lecture, seminar, PBL, CBL, simulation lab, clinical, etc.</i>	Faculty:Student Ratio
D2	ORDN:8215	N. HOLTON	LECTURE	
D2	ORDN:8235	D. JONES	LECTURE / LAB	
D2	ORDN:8236	D. JONES	LECTURE	

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.

D2 ORDN:8215: This course provides a foundation in craniofacial and dental growth and development. The first half of the course largely covers normal growth and development, while the second half of the course primarily focuses on craniofacial and dental anomalies. Subjects covered include: craniofacial and dental embryology; principles of craniofacial growth (e.g., patterns of integration, systemic influences, bone development); regional aspects of craniofacial growth (e.g., cranial base growth, midfacial growth); etiology of craniofacial anomalies (e.g., cleft lip and palate); and the application of growth and development to clinical practice.

The main focus of horizontal integration has been with Pediatric Dentistry and OPRM

1. This includes lectures from Dr. Geneser on dental embryology and occlusal development and a lecture from Dr. Weber-Gasparoni on behaviors that affect tooth development and malocclusion.

2. Dr. Butali presents a lecture on the etiology of cleft lip and palate.

3. We also have lectures from researchers at UIHC (Drs. Calhoun and DeVolder) regarding etiology, treatment, and cognitive development in subjects with craniofacial anomalies.

D2 ORDN:8235

This course is both an introductory view of orthodontic treatment and the provision of needed information preparatory to the primary care dentist being able to provide not only accurate classification of occlusion/malocclusion, but appreciation for the developmental aspects of the primary, mixed and eventual permanent dentitions. Introduction to interventional techniques available to the primary care dentist and their application, as well as diagnostic criteria used by the orthodontic specialist are provided. Exercises in development of the Salzmann Index are provided in order to prepare the student for the D3 Pediatric Dentistry Clerkship rotation.

Truly horizontal integration is probably most connected with the D2 Orthodontic Laboratory course, wherein exercises in recognition of malocclusion, panoramic radiographic interpretation, and procedures to demonstrate the production of space maintenance appliances are all designed to support and reinforce the information and concepts presented within that D2 Orthodontic Lecture course.

D2 ORDN:8236

This lecture course is both an introductory view of orthodontic treatment and the provision of needed information preparatory to the primary care dentist being able to provide not only accurate classification of occlusion/malocclusion, but appreciation for the developmental aspects of the primary, mixed and eventual permanent dentitions. Introduction to interventional techniques available to the primary care dentist and their application, as well as diagnostic criteria used by the orthodontic specialist are provided. Exercises in development of the Salzmann Index are provided in order to prepare the student for the D3 Pediatric Dentistry Clerkship rotation.

Truly horizontal integration is probably most connected with the D2 Orthodontic Laboratory course, wherein exercises in recognition of malocclusion, panoramic radiographic interpretation, and procedures to demonstrate the production of space maintenance appliances are all designed to support and reinforce the information and concepts presented within that D2 Orthodontic Lecture course.

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.

D2-D3 vertical integration: Dr. Jones has worked tirelessly with Pediatric Dentistry to make relevant case-based materials presented in the D2 orthodontic laboratory applicable to clinical activities in the D3 Pediatric Clinic.

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

Discussions held at faculty meetings address the use of the Salzman Index in the orthodontic residency clinic and in the pediatric clinic.

VIII. What major issues face the department that may require change(s) to the predoctoral curriculum?

None noted

IX. Describe curriculum changes that are a result from student feedback.

The orthodontic laboratory course was completely reconfigured to become case-based. This was a direct result of student feedback.

X. 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.

Yes. The goal of the curriculum is to prepare the graduating dentist to be competent in the identification of malocclusion.

XI. 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.

- Improved integration of diagnosis/treatment planning and comprehensive patient care.
- Longer term follow-up of patients to facilitate orthodontic re-evaluation experiences.

XII. What resources directly related to curriculum management would facilitate your ability to fulfill the teaching mission? (<i>Time, space, faculty development, course support, etc.</i>)
The lack of faculty members' ability to review course syllabi and teaching materials for other departments and courses is a significant handicap. Faculty access to each other's syllabi and lecture handouts would serve as a basis for communication and collaboration. Faculty resources: We strive to meet our commitments in teaching, research, professional and collegiate service and private patient care. Faculty are committed to excellence and want to invest in improving curriculum and teaching methods; finding the time is a challenge.

3/29/2017

Department: Orthodontics

Course: ORDN 8235 Orthodontic Laboratory

Course Director: David A. Jones, DSD, MSD

I.	Summarize Student Evaluation trends (past 2-3 years)(quantitative & qualitative)
Recent course evaluations for ORDN:8235 have been consistently negative, due to poorly designed course content and less-than-ideal coordination of materials and time utilization during the lab periods. Reviews of the MOST recent course, after the current course director took over, have improved somewhat, even though the course design and content were not able to be update prior to his taking over. THIS spring semester (2017) a nearly-completely new course design has been implemented, including better time utilization and improved coordination between material presented in lecture supported later that same day with exercises and demonstrations in the laboratory time period. Additionally, exam design has been updated to be posted online so that photographs, dental models and panoramic radiographs can be viewed much better, on-screen, for more accurate testing purposes. Additionally, MUCH less printed material is now needed, saving more trees!	

II.	Describe how this course builds on previous courses, and/or how skills-knowledge-values are developed in this course provide foundation for subsequent courses.
As with the lecture course, this course essentially builds on the D1 Dental Anatomy and Occlusion course work and is preparatory for the D3 Pediatric Dentistry Clerkship, relative to recognition of malocclusion and possible need to referral or interventional treatment for the developing mixed dentition occlusion to adult dentition occlusion transition.	

III.	What changes/updates are planned, if any? Have you identified barriers that necessitate resolution with pending changes, e.g. schedule conflicts, resources?
Changes will most probably involve INCREASED case utilization for “recognition of malocclusion” sessions. Limitations (rather than barriers) may be present in being able to martial additional resources for case reports, etc.	
IV.	Are there any planned redundancies? Have you compared course content across curriculum to help identify redundancies or missing content?
No redundancies have been identified, as it is believed no other course clearly addresses the issues presented in this course, other than the D2 Orthodontic Lecture course, and rather than one course being <u>redundant</u> to the other, they in fact <u>support</u> each other, by presenting material in the lab that further illustrates concepts presented in lecture, offering the student the opportunity for “hands on” experience with these concepts.	
V.	Are there hours allocated to this course that can be reduced?
There are now two fewer lab sessions than in previous years. Also, it is believed the lab course has been <u>scheduled</u> in the past to be 3 hours, from 9-noon, whereas currently we are completing all the sessions in a 2 hour time frame, from 9-11a.m.	
VI.	Which Collegiate Competencies does this course address?
1.2 Utilize critical thinking and problem-solving skills 2.2 Practice within one's scope of competence, and consult with or refer to professional colleagues when indicated 6.4 Select, obtain, and interpret diagnostic images for the individual patient 6.6 Formulate a comprehensive diagnosis, treatment and/or referral plan for the management of patients 6.13 Diagnose and manage developmental or acquired occlusal abnormalities	

3/23/2017

Department: Orthodontics

Course: ORDN 8236 Orthodontic Treatment

Course Director: David A. Jones, DDS, MSD

I.	Summarize Student Evaluation trends (past 2-3 years)(quantitative & qualitative)
Overall, course evaluations for ORDN:8236 have been very positive since taking over as course director. Quantitatively, responses have been well-above 80% in the “strongly agree” or “agree” for most course evaluation questions as well as for evaluations of the course director. Qualitatively, students have requested, and recognized, earlier posting of PowerPoint presentations onto ICON for their use and review PRIOR to class, and recognition has been given for “fairness” in examination design and grading. Specific comments have included: “Lecture material was easy to follow and clinically relevant” “Objectives were very clear and effective. Information presented in a way that was easily understood.” “The instructor was an effective lecturer and taught the material well.” Appreciation has also been shown for efforts to increase coordination of material presented in the lecture and lab courses. Feedback offered to help improve the course included: “It would be nice to have more thorough introduction to treatment planning...” “Continue to increase the amount of lecture notes you provide on the PowerPoint slides”	

II.	Describe how this course builds on previous courses, and/or how skills-knowledge-values are developed in this course provide foundation for subsequent courses.
Builds on D1 course in occlusion- students routinely report that they understand dental occlusion much more thoroughly at the conclusion of this course Skills Foundation for the D3 Pediatric Clerkship as well as eventual primary care dental practice from the standpoint of recognition of malocclusion, ectopic eruption, effect(s) of congenitally-missing teeth, along with the effect of craniofacial growth on the dentition and occlusion	

III.	What changes/updates are planned, if any? Have you identified barriers that necessitate resolution with pending changes, e.g. schedule conflicts, resources?
	Continued updating of the clinical cases used in PowerPoint presentations to illustrate concepts being presented. Also continue to improve test questions to more adequately assess students' assimilation of concepts presented. No barriers are apparent or anticipated to making these changes. Have also started to post the exams onto ICON because the students take their exams in the SimClinic, thus allowing the use of their computers and monitors to be able to display visual materials within the exam much more clearly and in a larger format. Also, this allows the course director to "un-publish" the exam, thus preventing it from being copied, and in addition, IT SAVES TREES!
IV.	Are there any planned redundancies? Have you compared course content across curriculum to help identify redundancies or missing content?
	No redundancies are planned, and haven't really had the ability to dig into others' course content for comparison regarding redundancies, as I have found that students remember material better if they hear it multiple times, and even perhaps from multiple sources!
V.	Are there hours allocated to this course that can be reduced?
	Reductions have ALREADY been accomplished over the past 2-3 years, condensing material so that there are now 1-2 fewer lectures than previously, thus allowing the course to finish earlier in the spring semester.
VI.	Which Collegiate Competencies does this course address?
	1.2 Utilize critical thinking and problem-solving skills 2.2 Practice within one's scope of competence, and consult with or refer to professional colleagues when indicated 6.4 Select, obtain, and interpret diagnostic images for the individual patient 6.6 Formulate a comprehensive diagnosis, treatment and/or referral plan for the management of patients 6.13 Diagnose and manage developmental or acquired occlusal abnormalities

3/27/2017

Department: Orthodontics

Course: ORDN:8215

Course Director: Nathan E. Holton

I. Summarize Student Evaluation trends (past 2-3 years)(quantitative & qualitative) Overall, evaluations for ORDN:8215 have been very positive. Students have consistently found the course to be well organized. With regard to quantitative scores during fall of 2014, approximately 80-90% of students responded “strongly agree” or “agree: for most general course evaluation questions and for questions relating to the course director. In proceeding years, this percentage has increased to 90% or greater for most general course evaluation questions and for questions regarding the performance of the course director. In recent years students have offered a number of positive comments about the course including: “Felt like I learned a lot of important information that will be used later on in my practice.” “The course provided a diversity of information applying to growth and development. It was nice to see several perspectives throughout the course.” “I thought this course was run and organized very well.” Students have also offered feedback to help improve the course, including: “Have instructors tell us more often why what we are learning is relevant...” “I think testing over clinical situations would be interesting.” “I thought the lectures that went into genetic syndromes and clefting were more detailed than what we need to know as dentists...”
II. Describe how this course builds on previous courses, and/or how skills-knowledge-values are developed in this course provide foundation for subsequent courses. ORDN:8215 provides students a foundation in both normal and anomalous craniofacial growth and development. As such, this course, in part, builds off Dental Gross Anatomy and Histology. After several weeks of learning craniofacial anatomy, ORDN:8215 provides studies with a broader background on the processes that produce craniofacial anatomy. The recognition of craniofacial and dental anomalies requires an understanding of both normal and aberrant developmental processes. This course helps build a foundation for future courses in that students begin to learn about both normal development and how to identify key phenotypic markers for certain craniofacial anomalies.
III. What changes/updates are planned, if any? Have you identified barriers that necessitate resolution with pending changes, e.g. schedule conflicts, resources?

Since taking over as course director in 2013, the course director has made updates to the course, including a more cohesive structure. The first half of the course (taught by the course director) deals largely with normal craniofacial developmental processes. This is followed by lectures on normal and aberrant dental and occlusal development (taught by Dr. Matthew Geneser). The remainder of the course covers a variety of topics from different instructors that includes: the etiology of malocclusion; application of facial growth knowledge to clinical situations; and the etiology, identification, and treatment, of different craniofacial anomalies.

Additionally, the course director has recently updated his lecture slide format to aid in clarifying the material covered. However, the course director is currently working to include more clinical examples to his lectures.

Currently, there are no barriers that necessitate resolution with pending changes.

IV. Are there any planned redundancies? Have you compared course content across curriculum to help identify redundancies or missing content?

The course director is not aware of any redundancies.

V. Are there hours allocated to this course that can be reduced?

Currently, 1.5 hours are scheduled for the midterm and final exams. These exams are designed to be completed in an hour. It would be possible to reduce the exam schedule from 1.5 to 1.0 hours.

VI. Which Collegiate Competencies does this course address?

Domain 1-Critical Thinking competency 1.3;
Domain 4-Health Promotion competency 4.1;
Domain 6-Patient care (assessment, Dx, and Tx planning) competency 6.1, 6.2, and 6.5