

# 2022 ORTHODONTIC LAB COURSE OVERVIEW

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## Purpose

The Orthodontic Techniques Lab Course is the introductory level for the first year orthodontic resident. It is designed to develop technical skills necessary for clinical and laboratory procedures. Also, this course provides knowledge of laboratory devices that can be used in conjunction with fixed orthodontic mechanics.

## Assignments & Goals

- **Introductory Session:** Designed to introduce first year residents to orthodontic appliances and tour a local commercial laboratory - Great Lakes Dental Technologies, 200 Cooper Avenue, Tonawanda, New York 14150.

**Goals:** Understand lab fabrication procedures and the importance of information sent for appliance construction.

- **Intraoral Scanning and Digital Models:** Students will learn to use intraoral scanning equipment to create digital files. The digital information will be saved, then manipulated to create printed physical casts for diagnostic and laboratory fabrication procedures.

**Goal:** Become familiar with the latest digital technology available in the orthodontic profession.

- **Indirect Bonding Trays:** Students are instructed to place brackets on an upper cast. A dual Biostar/Ministar tray system will be made over the arch. Clinical procedure involving the indirect bonding technique and digital bracket placement will be reviewed.

**Goals:** Learn array of bracket designs, bracket positioning for each tooth, fabrication of state-of-the-art transfer tray design, and discuss the clinical process of indirect bonding.

- **Retainers and Active Plates:** Detailed instruction of appliance designs, maintenance, and components will be reviewed. Hands-on guidance of wire clasps, labial bows, springs, acrylic procedures, trimming and finishing will take place. All students will complete the following appliances:

- Invisible Aligner with digital and manual tooth resets
- Maxillary Hawley Retainer with Spring, Ball, Arrow, C, and Adams Clasps; and Central Incisor Pontic

**Goals:** Learn array of removable plate designs available, fabrication procedures, how they are adjusted, and treatment management of devices.

- **Orthodontic Soldering Exercises:** A review of soldering materials will occur. Then, students are required to complete a series of paper pattern exercises. Completion of all exercises is based on high quality standards of the instructor.

**Goals:** Become familiar with instruments, equipment and materials, improve manual dexterity skills, and understand proper soldering techniques.

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- **Soldered/Fixed Appliances:** An array of fixed orthodontic lab appliances will be reviewed as well as required student hands-on fabrication of:

- Transpalatal Arch (TPA)
- Maxillary Quad Helix Expander
- Hygienic RME (to be included with Cantilever/Banded Herbst)

**Goals:** Learn proper band placement techniques, become familiar with commonly used fixed lab appliances, and understand fabrication procedures.

- **Functional Jaw Orthopedic Devices:** Many lab appliances may be used to treat Class II and Class III malocclusions. These appliances will be discussed.

**Goals:** Become familiar with array of appliances used for treatment of these malocclusions, construction bite technique.

## Evaluation/Grading Process:

Projects are categorized by exercise type or appliance design (See Orthodontic Lab Course - Assignment Grading Form). The categorized projects are subdivided into parts that will be evaluated and graded by the instructor. The average of the graded parts will represent that project grade. The final grade is determined by the average of all projects. Grades are as follows for subdivided categories for each project: A = 4pts, B = 3pts, C = 2pts, D = 1pt, F = 0. Final grade point average is: A = 4.0-3.75, A- = <3.75-3.5, B+ = <3.5-3.15, B = <3.15-2.85, B- = <2.85-2.5, C+ = <2.5-2.15, C = <2.15-1.85, C- = <1.85-1.5, D = <1.5-0.75, F = <0.75-0.

**Course Schedule:** Refer to 2022 Course Schedule Pdf



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