# Student Learning Outcomes
What do the program faculty expect all students to know or be able to do as a result of completing this program?

Note: These should be measurable and manageable in number (typically 4-6 are sufficient).

<table>
<thead>
<tr>
<th>#</th>
<th>Student Learning Outcomes</th>
<th>Curriculum Mapping</th>
<th>Assessment Methods</th>
<th>Evaluation Process (How)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To be competent in all aspects of clinical orthodontics. This includes; conducting a clinical examination, listing orthodontic problems, prioritizing orthodontic problems, recognizing and listing pathology, formulating a diagnosis, formulating a treatment plan, and performing treatment.</td>
<td>The following courses: 1. Contemporary Orthodontics: Introduced, developed 2. Clinical Orthodontics: achieved 3. Diagnosis Seminars: developed, reinforced 4. Temporary skeletal anchorage course: developed 5. Current Literature: reinforced 6. Fundamentals of Orthodontics: Introduced, developed 7. Clinical Case Conference: developed, reinforced 8. Dental Sleep Medicine: Introduced 9. Digital Orthodontics: Introduced,</td>
<td>Performance is measured directly through class participation, written and oral examinations, daily assessment of clinical activities by individual instructors, and through competency reports formulated by individual faculty and the program director each semester. Three comprehensive examinations are conducted, one by external examiners. These items are evaluated. 1. Data gathering and creating the problem list 2. Establish the proper treatment objectives 3. Demonstrate the appropriate</td>
<td>In addition to ongoing assessment from the individual instructors and the program director, the Core Graduate Orthodontics Faculty Committee is made up of 5 faculty members and meets regularly (weekly). Assessment results are reviewed and either corrective action for performance improvement is made regarding student performance and/or program improvement.</td>
</tr>
</tbody>
</table>

In which courses will faculty intentionally work to foster some level of student development toward achievement of the outcome? Please clarify the level at which student development is expected in each course (e.g., introduced, developed, reinforced, achieved, etc.).

Artifacts of Student Learning (What)
1. What artifacts of student learning will be used to determine if students have achieved this outcome?
2. In which courses will these artifacts be collected?
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 2 | Graduates of the program are expected to have a foundational knowledge of orthodontics. Foundational knowledge includes | Developed treatment plan
4. Demonstrate the treatment sequences and mechanics
5. Demonstrate the alternative treatment plans

A case display at the end of the program measures student performance indirectly. Grades (as indirect measures) for each course are awarded. ABO Objective Grading System is used to evaluate the quality of treatment. |

Courses are given in all these areas. The American Board of Orthodontics board certification process assesses this outcome in the quarter prior to graduation. Grades (as indirect measures) are used to assess student knowledge. A written examination is administered by the American Board of Orthodontics. The examination is a comprehensive, criterion-referenced multiple-choice examination administered at a testing center. |

The American Board of Orthodontics Part II Written exam has four domains.
1. Basic and applied biomedical sciences
2. Clinical Sciences A
3. Clinical Sciences B
4. Clinical Case Analysis

The American Board of Orthodontics Part III Scenario Based Exam has four domains.
1. Data Gathering and Diagnosis
2. Treatment Objectives and Planning
3. Treatment Implementation and Management
4. Critical Analysis and Outcomes Assessment

The test results are evaluated for each category among the Core Graduate Orthodontic Committee. If residents have difficulty in a particular section of the exam, program changes are implemented to improve performance. Results are also reviewed during the program’s professional accreditation process.

1. craniofacial anatomy
2. craniofacial growth
3. biomechanics
4. early and adult treatment
5. diagnosis
6. treatment planning
7. orthognathic surgery
8. oral medicine
9. bone biology
10. temporomandibular disorders
11. temporary skeletal anchorage devices
12. Digital orthodontics
13. Clear aligner therapy
14. Dental sleep medicine
Use of Assessment Data

1. How and when will analyzed data be used by program faculty to make changes in pedagogy, curriculum design, and/or assessment practices?
   Individual data will be analyzed as it comes with core faculty members. After gathering all the data, the program director will present the findings to the year-end annual faculty meeting and adopt recommended changes.

2. How and when will the program faculty evaluate the impact of assessment-informed changes made in previous years?
   At the year-end annual faculty meeting, the changes that took place the previous year will be evaluated.

Additional Questions

1. On what schedule/cycle will program faculty assess each of the program’s student learning outcomes? (Please note: It is not recommended to try to assess every outcome every year.)
   Clinical competency is assessed at the end of each clinical course. American Board of Orthodontics certification is assessed following the annual examination. Theses are completed in the 3rd year fall semester prior to graduation. All learning outcomes are assessed by the Core Graduate Orthodontic Committee meets weekly throughout the program.
2. Describe how, and the extent to which, program faculty contributed to the development of this plan.

The program director and the Core Graduate Orthodontic Committee meet weekly to evaluate the current status of learning outcomes based on the comments from the faculty and discuss the possible ways to improve the outcomes.

IMPORTANT: Please remember to submit any rubrics or other assessment tools along with this plan.