The course examines the growth and differentiation of stratified squamous epithelia. Particular emphasis is placed on molecular events involved in the differentiation program. Consideration is also given to mechanisms involved in oral and cutaneous disorders.

**HDO 550: Oral Diagnostics and Therapeutic Technology, Lectures and Laboratory Techniques**

Recent advances in the use and development of research technology for the early diagnosis and treatment monitoring of oral and systemic disease. Special attention is paid to the principles of technology transfer including patents and patenting; searching of on-line databases is a key component. The course includes relationships of dry mouth to salivary physiology, diabetes, and drug medications; salivary film measurements, wetting of oral surfaces, viscoelasticity and lubricity; the use of the Periotron and enzyme assays for the diagnosis of gingivitis and periodontal disease; instrumentation used in sensitive teeth measurement and evaluation of treatment effectiveness using oral compositions and iontophoresis; oral candidiasis and denture stomatitis and early detection and causes of dental caries; oral malodor measurements including use of the Halimeter and its use in the formulation of oral compositions. Application to clinical practice and clinical studies is covered.

3 credits, Letter graded (A, A-, B+, etc.)
Practice instruction in the teaching of oral biology and pathology at the undergraduate level carried out under faculty orientation and supervision.

3 credits, Letter graded (A, A-, B+, etc.)

**HDO 699: Thesis Research Oral Biology and Pathology**

Dissertation Research, Prerequisite: Advancement to Candidacy Passing, Fall, Spring, and Summer, 1-9 credits, Letter graded (A, A-, B+, etc.)

May be repeated for credit.

**HDO 700: Dissertation Research off Campus - Domestic**

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered on-campus. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.

Fall, Spring, 1-9 credits, S/U grading

May be repeated for credit.

**HDO 702: Oral Pathology**

Covers the clinical and histopathologic manifestations of acquired, inherited and neoplastic diseases of the human oral cavity. Includes benign and malignant tumors of bone, odontogenic and non-odontogenic cysts and tumors, mucosal and salivary gland diseases, and oral manifestations of systemic diseases.

Letter graded (A, A-, B+, etc.)

**HDO 704: Translational Oral Biology**

Covers the biochemical, physiological, microbiological and electronic principles involved in a variety of techniques used as aids in the diagnosis of oral diseases.

Letter graded (A, A-, B+, etc.)

**HDO 705: Oral Medicine**

Introduces the principles of patient care related to stomatologic and dermatologic disease, neurologic abnormalities, hematologic disturbances, and the medically compromised patient. 16 course hours Prerequisites: HDO 701

Letter graded (A, A-, B+, etc.)

**HDO 706: Oral Facial Genetics**

Focuses on the utilization, preparation and analysis of basic human genetics in clinical situations. Covers genetic disorders of the craniofacial complex and dentistry for the multiple handicapped patient. 30 course hours Prerequisite: HD 501 or permission of instructor

Letter graded (A, A-, B+, etc.)

**HDO 707: Clinical Pharmacology**

Covers pharmacology in dental practice emphasizing clinical usage of antibiotics, sedatives, tranquilizers and analgesics. Drug interactions and side effects are discussed. 18 course hours Prerequisite: HD 608

Letter graded (A, A-, B+, etc.)

**HDO 803: Oral Pathology Conference II**

Clinicopathologic case presentations and development of differential diagnosis skills. 11 course hours Prerequisites: HDO 702, HDO 703

Letter graded (A, A-, B+, etc.)

**HDO 805: Summer Research**

SUMMER RESEARCH

S/U grading

**HDO 821: Year IV Clinic: Oral Diagnostics**

The clinical continuation of HDO 704 in which the principals of oral diagnostics are applied to patient care.

Letter graded (A, A-, B+, etc.)