BERGEN COMMUNITY COLLEGE
DIVISION OF HEALTH PROFESSIONS
DENTAL HYGIENE DEPARTMENT

STUDENT COURSE OUTLINE

TERM	SPRING 2014
COURSE NUMBER/ TITLE	DHY-205HY – DENTAL RADIOLOGY 2 Lectures, 3 Labs; 3 Credits
MEETING TIMES/DAYS and LOCATION	Wednesday 9:25 AM - 11:05 AM C-319 Lecture Tuesday 9:30 AM - 12:00 PM S-329 Lab Tuesday 1:00 PM - 3:30 PM S-329 Lab Thursday 9:30 PM - 12:00 PM S-329 Lab Thursday 1:00 PM - 3:30 PM S-329 Lab
INSTRUCTOR	Professor J. Campbell, R.D.H., M.A., M.A., F.A.A.D.H.
OFFICE ROOM	S – 333
TELEPHONE NUMBER	201-493-3627
OFFICE HOURS	Monday 12:00 PM – 12:30 PM (PATERSON) Tuesday 12:00 PM – 1:00 PM Thursday 12:00 PM – 1:00 PM Tuesday 3:30 PM – 4:00 PM And By Appointment
E-MAIL ADDRESS	http://www.jcampbell@bergen.edu

COURSE DESCRIPTION

This course will introduce the student to dental radiology. Special emphasis will be given to radiation physics, production, protection, and ethics. Radiographic imaging techniques, film processing, quality assurance procedures, radiographic anatomy and principles of interpretation will also be presented through lectures, demonstrations and practice in laboratory sessions.

PREREQUISITES BIO104, BIO109, DHY101, DHY108, DHY109

PRIMARY EDUCATIONAL GOALS

Application of classroom and laboratory knowledge and skills to patient assessment, dental hygiene diagnosis, treatment planning, and provision of health care services is the primary goal of this course. Upon completion of this dental radiology course, the student will be able to

1. Develop an understanding of the theoretical and practical aspects of dental radiology.
2. Gain proficiency in the areas of exposing, processing and mounting radiographs.
3. Identify and describe the radiographic appearance of normal anatomy as well as abnormal structures and pathology.
4. Demonstrate current acceptable radiation safety practices, infection control protocols and quality assurance procedures in both clinical and laboratory settings.

CORE COMPETENCY DOMAINS

Core Competencies (C)

C.1 Apply a professional code of ethics in all endeavors.
C.2 Adhere to state and federal laws, recommendations, and regulations in the provision of dental hygiene care.
C.3 Use critical thinking skills and comprehensive problem-solving to identify oral health care strategies that promote patient health and wellness.
C.4. Use evidence-based decision making to evaluate emerging technologies and materials to assist in achieving high-quality, cost-effective patient care.
C.5 Assume responsibility for professional actions and care based on accepted scientific theories, research, and the accepted standard of care.
C.7 Integrate accepted scientific theories and research into educational, preventive, and therapeutic oral health services.
C.9 Apply quality assurance mechanisms to ensure continuous commitment to accepted standards of care.
C.10 Communicate effectively with diverse individuals and groups, serving all persons without discrimination by acknowledging and appreciating diversity.
C.11 Record accurate, consistent and complete documentation of oral health services provided.
C.12 Initiate a collaborative approach with all patients when developing individualized care plans that are specialized, comprehensive, culturally sensitive, and acceptable to all parties involved in care planning.
C.13. Initiate consultations and collaborations with all relevant health care providers to facilitate optimal treatments.

Health Promotion and Disease Prevention (HP)

HP.1 Promote positive values of overall health and wellness to the public and organizations within and outside the profession.
HP.2 Respect the goals, values, beliefs, and preferences of all patients.
HP.4 Identify individual and population risk factors, and develop strategies that promote health-related quality of life.
HP.5 Evaluate factors that can be used to promote patient adherence to disease prevention or health maintenance strategies.
HP.6 Utilize methods that ensure the health and safety of the patient and the oral health professional in the delivery of care.

Patient Care (PC)

Assessment

PC.1 Systematically collect, analyze, and record diagnostic data on the general, oral, and psychosocial health status of a variety of patients using methods consistent with medicolegal principles.
PC.2 Recognize predisposing and etiologic risk factors that require intervention to prevent disease.
PC.3 Recognize the relationships among systemic disease, medications, and oral health that impact overall patient care and treatment outcomes.

Dental Hygiene Diagnosis

PC.5 Use patient assessment data, diagnostic technologies, and critical decision making skills to determine a dental hygiene diagnosis, a component of the dental diagnosis, to reach conclusions about the patient's dental hygiene care needs.

Planning

PC.7 Collaborate with the patient and other health professionals as indicated to formulate a comprehensive dental hygiene care plan that is patient-centered and based on the best scientific evidence and professional judgment.
PC.8 Make referrals to professional colleagues and other health care professionals as indicated in the patient care plan.
PC.9 Obtain the patient's informed consent based on a thorough case presentation.

Implementation

PC.10 Provide specialized treatment that includes educational, preventive, and therapeutic services designed to achieve and maintain oral health. Partner with the patient in achieving oral health goals.

Evaluation

PC.11 Evaluate the effectiveness of provided services, and modify care plans as needed.
PC.12 Determine the outcomes of dental hygiene interventions using indices, instruments, examination techniques, and patient self-reports as specified in patient goals.
PC.13 Compare actual outcomes to expected outcomes, reevaluating goals, diagnoses, and services when expected outcomes are not achieved.

REQUIRED TEXTBOOK

Iannucci, M.I. and Howerton, L.J. *Dental Radiography Principles and Techniques, 4th Edition*. Elsevier Saunders, St. Louis. 2012.

COURSE WEBSITE

This is a partially online (hybrid) course. The course content will be presented part of the time in a traditional classroom setting and the rest of the class work is done on-line via the Internet. This class has its own website. The BCC course management system is known as "Moodle." The course website contains an on-line version of the course syllabus, a regularly updated list of course announcements, PowerPoint presentations on the course readings and other supplementary study materials. There is also a course e-mail system

and grade book that you should check throughout the semester. It is your responsibility to login to Moodle on a regular basis throughout the semester. Weekly announcements are usually made at the beginning of each week and can be accessed through the ***News Forum*** link that is located on the top of the webpage.

To access the student resources available through your textbook visit the website: http://evolve.elsevier.com/Iannucci/dentalradiography/

On the Elsevier website there is a comprehensive self-study examination complete with answers, rationales, and page number references. The website includes glossary exercises, case scenarios, labeling and interactive exercises. There are also links to relevant websites and information that supplement the textbook and encourage further on-line research and fact-finding.

COURSE OUTLINE, READING ASSIGNMENTS, COMPETENCIES and CALENDAR

WEEK	CONTENT TOPIC	READING ASSIGNMENT	CORE COMPETENCIES
1	**Lecture** Radiation History Radiation Physics **Laboratory** Review Course Syllabus Dental Radiographs & the Dental Radiographer Film Mounting & Viewing Introduction to Radiographic Examinations	 (Chapter 1) 2 - 7 (Chapter 2) 8 – 25 (Chapter 11) 121 - 124 (Chapter 28) 345 – 356 (Chapter 16) 152 – 154	 C.1 C.2 C.9 HP.1 HP.4
2	**Lecture** Radiation Characteristics Dental X-Ray Image Characteristics **Laboratory** Dental X-Ray Equipment Dental X-Ray Film	 (Chapter 3) 26 - 33 (Chapter 8) 76 - 87 (Chapter 6) 57 - 62 (Chapter 7) 63 - 75	 C.1 C.2 C.4 C.5 C.9 HP.6

3	**Lecture** **EXAMINATION #1 (S-346)** Radiation Biology **Laboratory** Bite-Wing Technique	 (Chapter 4) 34 - 44 (Chapter 19) 210 - 225	 C.1 HP.4 C.2 HP.6 C.4 PC.1 C.5 PC.2 C.7 PC.3 C.9 C.10
4	**Lecture** Radiation Protection Patient Relations & the Dental Radiographer Patient Education & the Dental Radiographer Legal Issues & the Dental Radiographer **Laboratory** Bite-Wing Technique Infection Control & the Dental Radiographer	 (Chapter 5) 34 - 44 (Chapter 12) 125 - 129 (Chapter 13) 130 - 134 (Chapter 14) 135 - 139 (Chapter 19) 210 - 225 (Chapter 15) 140 - 151	 C.1 HP.2 C.2 HP.4 C.4 HP.6 C.5 PC.1 C.7 PC.2 C.9 PC.3 C.10 PC.5 C.11 C.12 C.13
5	**Lecture** Introduction to Image Interpretation Normal Anatomy: Intraoral Films **Laboratory** Bite-Wing Technique	 (Chapter 30) 369 - 371 (Chapter 27) 325 – 344 (Chapter 19) 210 - 225	 C.1 PC.1 C.2 PC.2 C.3 PC.3 C.4 PC.5 C.5 PC.7 C.7 PC.8 C.9 PC.9 HP.2 PC.10 HP.4 PC.11 HP.5 PC.12 HP.6 PC.13
6	**Lecture** **EXAMINATION #2 (S-346)** Paralleling Technique Exposure & Technique Errors **Laboratory** Paralleling Technique: Anterior Projections	 (Chapter 17) 155 – 179 (Chapter 20) 273 – 283 (Chapter 17) 155 – 179	 C.1 PC.1 C.2 PC.2 C.4 PC.3 C.5 PC.5 C.7 PC.7 C.9 PC.8 C.11 PC.9 C.12 PC.10 C.13 PC.11 HP.2 PC.12 HP.4 PC.13 HP.5 HP.6

7	**Lecture** Dental X-Ray Film Processing Quality Assurance in the Dental Office **Laboratory** Digital Imaging Paralleling Technique: Posterior Projections	 (Chapter 9) 86 – 110 (Chapter 10) 111 - 119 (Chapter 25) 301 – 311 (Chapter 17) 155 - 179	C.1 PC.1 C.2 PC.2 C.3 PC.3 C.4 PC.5 C.5 PC.7 C.7 PC.8 C.9 PC.9 C.11 PC.10 C.12 PC.11 C.13 PC.12 HP.2 PC.13 HP.4 HP.5 HP.6
8	**Lecture** Introduction to Image Interpretation Descriptive Terminology Identification of Restorations, Dental Materials, and Foreign Objects **Laboratory** Digital Imaging Occlusal & Localization Techniques	 (Chapter 30) 369 - 371 (Chapter 31) 372 - 382 (Chapter 32) 383 - 401 (Chapter 25) 301 – 311 (Chapter 21) 239 – 255	C.1 HP.1 PC.9 C.2 HP.2 PC.10 C.3 HP.4 PC.11 C.4 HP.5 PC.12 C.5 HP.6 PC.13 C.7 PC.1 C.9 PC.2 C.10 PC.3 C.11 PC.5 C.12 PC.7 C.13 PC.8
	SPRING BREAK		
9	**Lecture** **EXAMINATION #3 (S-346)** Interpretation of Dental Caries **Laboratory** Digital Imaging	 (Chapter 33) 402 - 411 (Chapter 25) 301 – 311	C.1 HP.1 PC.9 C.2 HP.2 PC.10 C.3 HP.4 PC.11 C.4 HP.5 PC.12 C.5 HP.6 PC.13 C.7 PC.1 C.9 PC.2 C.10 PC.3 C.11 PC.5 C.12 PC.7 C.13 PC.8

10	**Lecture** Interpretation of Periodontal Disease Interpretation of Trauma, and Pulpal, and Periapical Lesions **Laboratory** Bisecting Technique	 (Chapter 34) 412 - 425 (Chapter 35) 426 - 436 (Chapter 18) 180 - 209	C.1 HP.1 PC.9 C.2 HP.2 PC.10 C.3 HP.4 PC.11 C.4 HP.5 PC.12 C.5 HP.6 PC.13 C.7 PC.1 C.9 PC.2 C.10 PC.3 C.11 PC.5 C.12 PC.7 C.13 PC.8
11	**Lecture** Panoramic Imaging **Laboratory** Normal Anatomy: Panoramic Imaging Panoramic Imaging	 (Chapter 22) 256 – 273 (Chapter 29) 357 – 367 (Chapter 22) 256 – 273	C.1 HP.1 PC.9 C.2 HP.2 PC.10 C.3 HP.4 PC.11 C.4 HP.5 PC.12 C.5 HP.6 PC.13 C.7 PC.1 C.9 PC.2 C.10 PC.3 C.11 PC.5 C.12 PC.7 C.13 PC.8
12	**Lecture** Radiography of Patients with Special Needs Extraoral Imaging **Laboratory** Intraoral & Extraoral Techniques	 (Chapter 24) 290 – 299 (Chapter 23) 274 – 289	C.1 HP.1 PC.9 C.2 HP.2 PC.10 C.3 HP.4 PC.11 C.4 HP.5 PC.12 C.5 HP.6 PC.13 C.7 PC.1 C.9 PC.2 C.10 PC.3 C.11 PC.5 C.12 PC.7 C.13 PC.8
13	**Lecture** Three-Dimensional Digital Imaging **Laboratory** Intraoral & Extraoral Techniques	 (Chapter 26) 312 – 323	C.1 HP.1 PC.9 C.2 HP.2 PC.10 C.3 HP.4 PC.11 C.4 HP.5 PC.12 C.5 HP.6 PC.13 C.7 PC.1 C.9 PC.2 C.10 PC.3 C.11 PC.5 C.12 PC.7 C.13 PC.8

14	**Lecture** **EXAMINATION #4 (S-346)** **Laboratory** Review for Laboratory Final		
15	**Lecture** **Make-up Tests** **Laboratory** **LABORATORY FINAL**		

This course outline and calendar is tentative and subject to change depending upon the progress of the class.

Due to the amount of material to be covered in this course it is recommended that you read your textbook chapter(s) before the lecture or laboratory to familiarize yourself with the material that will be covered in the lecture or laboratory session. You are responsible for the information covered in assigned readings, materials covered in lecture and lab, course goals, and supporting core competencies.

Following the lecture or laboratory session you should review your notes and the required reading assignment and complete the identification exercises and review questions at the end of the chapter.

EVALUATION CRITERIA

This course consists of a didactic (classroom) component and a laboratory component. To successfully meet the requirements of this course, the student is expected to attend all lectures and laboratories and to demonstrate their understanding of the lecture topics and laboratory procedures through laboratory exercises, radiographic exposures and interpretation, and written examinations.

CLASSROOM EXAMINATIONS

There will be four non-cumulative examinations during the semester. All classroom examinations will be administered during the first hour of the assigned lecture time period. Each examination will consist of 50 multiple-choice questions worth 2 points per question. These examinations are computer based and will be administered in a designated computer lab. The first 50 minutes of the lecture period will be allowed to complete the examination. Classroom examinations will cover material from lectures, laboratory exercises and reading assignments. Refer to the course outline section for topics that will be included in each examination.

There will also be an examination on Radiation Biology/Radiation Protection. This examination will be taken on-line through the Moodle website between **February 8, 2014** and **February 16, 2014**. This examination will be taken outside you scheduled laboratory and lecture time periods. The examination will consist of 50 multiple-choice questions

worth 2 points per question. All students must achieve a minimum of 75% on this test prior to exposing any radiographs in the laboratory or clinic. Any student who does not achieve the minimum passing grade (75%) after the first attempt will be remediated and retested until a passing grade is achieved.

The grade received on this test will not be averaged into the final course grade. Failure to fulfill this requirement will result in a loss of laboratory and/or clinical time.

LABORATORY ACTIVITIES

The laboratory portion of this course is designed to assist you in a better understanding of dental radiology and its application. Attendance, arriving on time and participation in the entire lecture and laboratory sessions are mandatory. Every laboratory session will be graded. No make-up labs will be given for missed laboratory activities. Part of the time you will be exposing radiographs on a manikin and other times you will be processing films, interpreting and evaluating images, getting images graded, or completing other laboratory assignments. Therefore, you are expected to be present during the entire laboratory session.

A cumulative lab examination will be given during the final week of the semester during your scheduled lab time and day. All students are required to take the lab examination final when scheduled. If special circumstances require a schedule adjustment, this must be arranged in advance with the instructor The laboratory final will consist of 50 multiple-choice questions, worth 2 points each, presented in a case-based format.

RADIOGRAPHIC SERIES

To successfully satisfy the requirements of this course each student must expose and interpret a set number of diagnostically acceptable radiographic series on the DXTTR Phantom during each scheduled laboratory session. These radiographic series will be graded and will be applied to the laboratory portion of the final grade. A passing grade on all radiographic series is required to complete this course.

ATTENDANCE POLICY

Attendance and participation is extremely important for success in this course due to the mount of material that is covered in lecture and the laboratory. Regular and punctual attendance in lecture and lab is expected. Absences, lateness and early departures will lower your final grade. Missing a lecture will count as one absence, missing a laboratory will count as two absences. The following combinations of absences, late entries, and early departures will result in the loss of points from your final grade:

Number of Absences, etc.	Loss of Points
1-2	0
3-5	2
6-8	6
9-11	8
12-14	10
15-30	20

If you miss all or part of class it is your responsibility to find out from a classmate what you have missed so that you are prepared for the next class session.

EVALUATION

Examinations (4) Average.....80%
Lab Final Examination.....15%
Laboratory series and exercises.....5%

An average of **75** on all examinations must be achieved to successfully pass this course. In this course this average will be calculated from the scores of the four classroom examinations and the laboratory final.
All students must complete, interpret and submit for grading a set amount of radiographic images on the training manikin in order to satisfy the requirements of this course.

The final letter grade will correspond to the following numerical grading system:

A	92-100
B+	89-91
B	83-88
C+	80-82
C	75-79
F	74 and below

A MINIMUM GRADE OF "C" IS REQUIRED TO PASS THIS COURSE.
There are no extra credit opportunities in this course.

INSTRUCTOR ABSENCE

If the instructor does not appear after 20 minutes following the scheduled starting time of the laboratory or lecture, students should generate an attendance sheet. One volunteer member of the class should deliver the list with the date to the Dental Hygiene Office (S-337).

EMERGENCY SCHOOL CLOSINGS

In the event of inclement weather or other unexpected emergency, the college may decide to cancel classes. Announcements of the college closing will be made on radio stations WOR 710, WNBC 660, WMCA 57, WCBS 88, and on Cablevision Channel 25.
Also, go to the Bergen Community College website at **www.bergen.edu** for regular weather updates during inclement weather.
All students interested in receiving immediate notification on critical campus alerts should register for the Emergency Notification System. This system provides text, email and voice notification services. To sign up, go to www.bergen.edu/emergencyalert.

STUDENT SUPPORT SERVICES

Students are encouraged to use the student support services provided by the College. These services include the Tutoring Center (L-125) and the Office of Specialized Services (L-115). Free subject area tutoring and study skills workshops are available. Tutorial services help students develop learning strategies based on their individual learning styles with the goal of creating successful students and independent learners.

Bergen Community College's Office of Specialized Services collaborates with and empowers students with disabilities to achieve their educational goals. The office provides academic support services and appropriate accommodations allowing students equal access to their

college curriculum and other college programs. To learn more about eligibility and documentation guidelines, please visit: www.bergen.edu/oss

ACADEMIC INTEGRITY

The Bergen Community College Dental Hygiene Program will adhere to the Academic Integrity Policy, which is stated in the Bergen Community College Catalog. Violation of academic integrity may be defined to include the following: cheating, plagiarism, falsification and fabrication, abuse of academic materials, complicity in academic dishonesty, and personal misrepresentation. It is the student's responsibility to be aware of the behaviors that constitute academic dishonesty. Please refer to the Bergen Community College Catalog for more information.