UNIVERSITY OF PUERTO RICO
MEDICAL SCIENCES CAMPUS
DEPARTMENT OF BIOCHEMISTRY

DENTAL BIOCHEMISTRY SCHEDULE: Course (CBIO 7100)

PARTICIPATING FACULTIES: ***Dr. Braulio D. Jiménez-Vélez (BDJ) Course Coordinator***
Drs. Alan M. Preston (AMP), Pablo Vivas (PVM), Dipak K. Banerjee (DKB), Francisco Bermúdez-Segarra (FBS), Rodulfo Gauthier (RG), Evangelia Morou (EM), José R. Rodríguez-Medina (JRM), Abel J. Baerga (AJB), Surangani Dharmawardhane (SD), Ricardo Rossello (RR), Jose F Rodríguez Orengo (JRO)

DATES/TIME: August 4 - September 19, 2014 from 1:00 PM - 4:00 PM.
Monday (Mon), Tuesday (Tue), Wednesday (Wed),
Thursday (Thur)

CLASS ROOM: A-225 (Second Floor RCM)

WEB SITE: Dr. Braulio Jimenez; Center of Environmental & Tox Research
http://cetr.rcm.upr.edu/index.html

AUDIOVISUAL: Dental Biochemistry Section power point presentations for class
Guarionex Rivera Díaz 1133

DATE	TIME	TOPIC	LECTURER
Aug. 4	1:00 -1:15 PM	Class Introduction and welcoming	BDJ
Aug.4 (Mon)	1:15 - 2:00 PM 2:00 - 4:00 PM	Biomolecules (1) Water, Buffers, and pH (2)	AMP AMP
Aug. 5 (Tues)	1:00 - 3:00 PM 3:00 - 4:00 PM	Amino Acids, Peptides, and Proteins (3) 3D Structure of Proteins (4)	AJB AJB
Aug. 6 (Wed)	1:00 -2:00 PM 2:00 - 4:00 PM	Protein Function (5) Enzymes (6)	AJB AJB
Aug. 7 (Thur)	1:00 - 2:00 PM 2:00 - 4:00 PM	Enzymes (6) Fibrous and Salivary Proteins (7)	AJB FBS
Aug. (11) (Mon)	1:00 - 2:00 PM 2:00 - 4:00 PM	Detecting disease from Saliva (8) Bioenergetics and (9) Oxidative Phosphorylation (10)	FBS JRO
Aug. 12 (Tues)	1:00 - 2:00 PM 2:00 - 4:00 PM	Oxidative Phosphorylation (10) Introduction to Carbohydrate and Structure (11)	JRO DKB
Aug. 13 (Wed)	1:00 - 4:00 PM	Glycolysis (12)	BDJ
Aug. 14 (Thur)	1:00 - 2:00 PM 2:00 - 4:00 PM	Gluconeogenesis (13) Citric Acid Cycle (13)	BDJ BDJ
Aug. 18 (Mon)	1:00 – 2:00 PM 2:00 - 4:00 PM	Practice Problems on pH (14) Practices Problems and Review (14)	AMP AJB
DATE	**TIME**	**TOPIC**	**LECTURER**

Aug. 19 (Tues)	**2:00 - 3:30 PM**	**EXAM #1 (Topics 1-14)**	**BDJ and Faculty**
Aug. 20 (Wed)	1:00 - 3:00 PM 3:00 - 4:00 PM	Carbohydrate, Biosynthesis, Hexose Catabolism, Monosacharide, (15) Glycogen Metabolism (16)	BDJ BDJ
Aug. 21 (Thurs)	1:00 - 4:00 PM	Clinical Case Study Connective Tissue Calcification	FBS
Aug. 25 (Mon)	1:00 - 3:00 PM 3:00 - 4:00 PM	Biosignaling in Dental Biochemistry (17) Prostaglandins in Odontology (18)	SD RG
Aug. 26 (Tues)	1:00 - 3:00 PM 3:00 - 4:00 PM	Lipids, Lipid Biosynthesis (19) Oxidation of Fatty Acids (20)	BDJ BDJ
Aug. 27 (Wed)	1:00 - 3:00 PM 3:00 - 4:00 PM	Cholesterol and Steroid (21) Amino Acid Oxidation and Production of Urea (22)	BDJ
Aug. 28 (Thur)	1:00 - 3:00 PM 3:00 - 4:00 PM	Biosynthesis of Amino Acid (23) Integration and Regulation of Mammalian Metabolism (24)	BDJ AMP
Sept 2. (Tue)	1:00 - 2:00 PM 2:00 - 4:00	Nucleotides, Nucleic Acids (25) Nucleotide Metabolism (26)	JRO
Sept. 3 (Wed)	1:00 - 2:00 PM 2:00 - 4:00 PM	Genes and Chromosomes (27) DNA Metabolism (28)	EM EM
Sept. 04 (Thur)	**2:00 - 3:30 PM**	**EXAM #2 (Topics 15-24)**	**BDJ and Faculty**
Sept. 08 (Mon)	1:00 – 2:00 PM 2:00 - 4:00 PM	Appl. of Genomics, Transcript, Proteomics, and Metabolomics in Dentistry(29) The Biochemistry in bone regeneration (30)	FBS RR
Sept. 09 (Tue)	1:00 - 2:00 PM 2:00 - 4:00 PM	RNA Metabolism (31) Protein Metabolism (32)	JRM JRM
Sept. 10 (Wed)	1:00 - 3:00 PM 3:00 - 4:00 PM	Mercury in dental fillings (33) Recombinant DNA (34)	BDJ PVM
Sept 11 (Thur)	1:00 - 4:00 PM	Regulation of gene expression	PVM
Sep. 15 (Mon)	1:00 - 4:00 PM	Genes in cancer (emphasis on oral cancer)	PVM
Sep. 16 (Tue)	1:00 - 4:00 PM	Vitamins (36)	AMP
Sept 17 (Wed)	1:00 - 4:00 PM	Nutrition (37)	AMP
Sep. 18 (Thur)	**2:00 - 3:30 PM**	**EXAM #3 (Topics 25-38)**	**BDJ and Faculty**

EVALUATION CRITERIA

Course methodologies employed are: Three Partial Exams each consisting of 32.8 % of the final grade and 1% on class attendance and class participation and .5% special efforts

APPROVAL OF THE COURSE

The course will be approved with 65% and over. Letter grade will be assigned as follows: 70%-76% = C, 77%-86% B, 87% -100% A. A reposition exam will be offered to those students with a final grade below 70% (highest passing grade for these students will be C). All exam grades will be posted with their key to question answers at the 6th floor under the heading of Dental Course 7100

SUMMARY OF EXAMS AND SCHEDULES

EXAM	**1ST**	**2ND**	**3RD**
DATE	Tuesday Aug. 19	Thursday Sept. 04	Thursday Sept. 18
TOPICS	1-14	15-24	25-38
NO. QUEST	66	66	66
TIME	90 min	90 min	90 min

INSTRUCTIONAL STRATEGIES

Education strategies used in the course include: 1) Use of lecture objectives provided to expose themes. 2) Class discussions and conferences to expose themes. 5) Pre-Exam-review sessions. 6) Use of assigned reading and review questions from the textbook or provided by the professor.

RESOURCES

Teaching resources include: 1) Faculty speakers from basic and clinical departments (Biochemistry and the Dental School). 2) Audiovisual resources. 3) Internet resources. 4) Conference rooms. 5) Class notes and outlines (objectives and lectures) prepared by the faculty. 6) Textbooks 7) slides for all lectures and pathways posted on the web site (see above).

TEXTBOOKS

The textbook for the CBIO 7100 (Dental Biochemistry) course is "Lippincott's illustrated reviews: Biochemistry", 5th edition, Lippincott' Williams & Wilkins, 2011.

Additional reference textbooks are the following:
"Principles of Biochemistry" by A.L. Lehninger, D. L. Nelson and M.M. Cox. 6th Edition 2008.
"Concepts in Biochemistry" by R. Boyer, 2nd Edition.
Biochemistry with clinical correlations by Thomas Devlin 7th Edition (2011)

PARTICIPATING FACULTIES

Name	Office	Ext.	e-mail
Dipak K. Banerjee	A-606	1624	dipak.banerjee@upr.edu
Francisco Bermúdez Segarra	A-107	1139	francisco.bermudez@upr.edu
Pablo Vivas	A-639	1638	pablo.vivas@upr.edu
Rudulfo Gauthier	A-117	2271	rodulfo.gauthier@upr.edu
Braulio D. Jiménez	B-210	1250	braulio.jimenez@upr.edu
Ricardo Rossello	A-616	3472	ricardo.rossello@upr.edu
Evangelia Morou	A-107	1182	evangelia.morou@upr.edu
Alan M. Preston	A-605	1636	alan.preston@upr.edu
Jose Rodriguez Orengo	B-204	1349	wilfredo.delgado@upr.edu
José R. Rodríguez Medina	A-619	2299	jose.rodriguez123@upr.edu
Abel J. Baerga	A-626	1603, 1640	abel.baerga@upr.edu
Surangani Dharmawardhane	A-610	1630	su.d@upr.edu
Department of Biochemistry Nelida Flores, Dept. Secretary	A-619	1601,1602	nelida.flores@upr.edu