



INDIANA UNIVERSITY

DEPARTMENT OF ANATOMY AND CELL BIOLOGY

School of Medicine

MEMORANDUM

DATE: 14 March 2014

TO: Sherry Queener, Associate Dean IU Graduate School

FROM: Kathryn Jones, Chair, Anatomy & Cell Biology (ACB)
Joseph Bidwell, Chair of ACB Graduate Studies Committee

RE: New Traditional Track 1-year MS degree in Anatomy & Cell Biology

We have designed a 1-year non-thesis Master of Science (MS) degree program comprised of didactic classic anatomical courses. Students are required to take 30 credit hours during 2 semesters. This is in response to a need for an accelerated program for those students wishing to enhance their competitiveness in applying to postgraduate professional schools.

An outline and brief description of our proposed 1-year MS program follows (see the Table for a summary of this information). Presently we offer a **Traditional Track 2-year MS** program and a **Research Track 2-year MS** program both of which include didactic courses and a research component requiring a paper and thesis, respectively for graduation.

Table: Courses required for the proposed Anatomy & Cell Biology 1-year MS program

	<u>New</u> Traditional Track 1 year
Fall semester	D527 Neuroanatomy (3) B500 Biochemistry (3) D502 Histology (4) G855 Biostatistics (1) *Electives (see list)
Spring semester	D501 Gross Anatomy (5) D861 Seminar in Anatomy (1) Electives
Total credit hours	30 credit hours

***ELECTIVES:** These electives are from the IUSM IBMG modular curriculum, the Department of Cellular and Integrative Physiology, the MS/MS Academic program, and the IUPUI Master of Science Biology program. Topics courses as arranged by faculty will also be acceptable with prior approval from the ACB Graduate Studies Committee

Annually (Fall)

F503	Human Physiology	(4 cr.)
G716	Molecular Biol & Genetics	(3 cr.)
G831	Conc. & Controver in Cardiovasc Physiol.	(2 cr.)
BIOL 50700	Principles of Molecular Biology	(3cr)
BIOL 55600	Physiology I	(3cr)
BIOL 55900	Endocrinology	(3cr)
BIOL 56600	Developmental Biology	(3cr)

Annually (Spring)

J510	Infectious Microbes and Host Interactions	(3cr)
G720	Stem Cell Biology	(2cr)
G724	Molecular and Cancer Genetics	(2cr)
G725	Gene Therapy	(2cr)
G726	Developmental Genetics	(2cr)
G727	Animal Models of Human Disease	(2cr)
G728	Fundamental Concepts of Infection & Pathogenesis	(2cr)
G729	Introduction to Immunological Systems	(2cr)
G733	Introduction to Biological Microscopy	(2cr)
G735	Cardiovasc, Renal & Respir Physiol.	(2 cr.)
G736	Endocrine & GI Function	(2 cr.)
G737	Introduction to Histology	(2cr)
G743	Fundamentals of Electrical Signaling & Ion Channel Biology	(2 cr)
G744	Neuropharmacology of Synaptic Transmission: Receptors and Ligands	(2 cr)
G745	Fundamentals of Intracellular Signal Transduction in Neurons	(2 cr)
G747	Principles of Pharmacology	(2cr)
G748	Principles of Toxicology 1	(2cr)
G749	Introduction to Structural Biology	(2cr)
G751	Advanced Concepts in Cytosolic & Nuclear Signal Transduction	(2 cr)
G754	Principles of Toxicology 2	(2cr)
G755	Principles of Toxicology 3	(2cr)
G761	Mol Cell Physiol of Ion Channels	(2cr)
G807	Structural and Chemical Biology	(2cr)
G817	Molecular Basis of Cell Structure and Function	(2cr)
G852	Concepts of Cancer Biology	(2cr)
BIOL 51600	Molecular Biology of Cancer	(3cr)
BIOL 54000	Topics in Biotechnology	(3cr)
BIOL 56100	Immunology	(3cr)
BIOL 56400	Molecular Genetics	(3cr)
BIOL 55900	Endocrinology	(3cr)
BIOL 56800	Regenerative Biol & Medicine	(3cr)
BIOL 57100	Developmental Neurobiology	(3cr)

Spring 2012 (Even # Year)

G703	Physiology of Coronary Circulation	(1 cr.)
G713	Angiogenesis	(1 cr.)

Summer 2012 (Even # Year)

G707	Physiology of Smooth Muscle	(1 cr.)
G708	Cardiac & Cor Physiol of Exercise	(1 cr.)

Fall 2012 (Even # Year)

G830	Advanced Cardiovasc Physiol.	(3 cr.)
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Fall 2013 (Odd # Year)

G819	Basic Bone Biology.	(3 cr.)
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Spring 2013 (Odd # Year)

G706	Designer Mice	(1 cr.)
G762	Renal Physiology	(1 cr.)

Summer 2013 (Odd # Year)

G704	Physiological Proteomics	(1 cr.)
G714	Development of Vascular System	(1 cr.)
G782	Physiol & Pathophysiol of Lipid Rafts	(1 cr.)

To summarize, we have designed a 1-year coursework MS degree program comprised of a classical anatomical curriculum for students desiring to bolster their application to medical school or dental school. We submit this to you for your information, and for approval by the Graduate Affairs Committee.