

**Proposal for Dual MS (Medical Physiology)/MBA. Degree Program
Case Western Reserve University**

Proposed by Drs. Simon Peck and Thomas M. Nosek November 13, 2013

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This document contains a proposal for a dual degree program between the Department of Physiology and Biophysics (MS in Medical Physiology, Plan B) and the Weatherhead School of Management (MBA degree)

I. Background and Justification

The Department of Physiology & Biophysics at Case Western Reserve University offers the MS in Medical Physiology program that caters to college graduates that strengthens their academic backgrounds prior to applying to medical school, dental school, graduate school, or other health professions programs and/or to enrich their credentials for the job market. The Weatherhead School of Management offers its MBA program which is recognized as an innovative approach to Management education and builds on a foundation of core skills to prepare graduates for what's happening in business right now. The dual degree program will prepare students to participate in the fields of medical research and management, health care management, as well as give students an opportunity to develop expertise in areas of substantive interest. Moreover, dual degree students will be more likely to have greater job opportunities that are at the intersection of translational science and business/health care. No additional courses or resources are anticipated to fulfill the respective schools' obligations in administering the joint degree program.

II. Administration

Weatherhead School of Management Liaison: Dr. Simon Peck, Associate Dean of MBA Programs & Associate Professor of Strategy

Medical Physiology Liaison for the School of Medicine: Dr. Thomas M. Nosek, Professor and Director of the MS in Medical Physiology program for the Department of Physiology & Biophysics.

III. Program Structure

If one were to acquire the MBA and MS degrees independently, it would require the completion of 60 hours for the MBA program and 30 hours for the MS program (a total of 90 credit hours). In the dual degree program, cross counting allows for a reduction in the total number of class hours to 66 credit hours for both degrees as described below. The 60 credit hour and 30 credit hour numbers are for the independent programs as accredited through the Board of Regents in Columbus.

The proposed dual degree would require students to complete a total of 66 credit hours. For the MS in Medical Physiology part of the dual degree, students are required to complete 18 credit hours of coursework. These 18 hours constitute the one year core curriculum of the program. The

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remaining 12 hours of elective courses required for the stand-alone MS degree would be satisfied by accepting 12 hours of course work from the MBA program.

1. 3 of these credit hours will be the required core MBA course MBAC 511, Statistics & Decision Modeling
2. The remaining 9 hours will be taken from the following MBA, 3 credit hour electives:
 - a. ECON 421, Health Economics & Strategy
 - b. MGMT464, Business Ethics
 - c. MGMT 467, Commercialization & Intellectual Property Management aka FUSION
 - d. OPMT 420, Six Sigma and Quality Management
 - e. OPMT 450, Project Management
 - f. OPRE 411, Optimization Modeling
 - g. OPRE 432, Computer Simulation
 - h. OPRE 433, Probability, Forecasting & Statistics
 - i. OPRE 435B, Integrated Problem Solving in OR and SC
 - j. ORBH 403, Developing Interpersonal Skills for Managers
 - k. ORBH 450, Executive Leadership
 - l. ORBH 460, Women in Organizations
 - m. ORBH 491, Managing Diversity and Inclusion

For the MBA part of the dual degree, students would have to complete 48 credit hours of graduate level course work at Weatherhead School of Management. While the students are enrolled in the WSOM part of the program, they will be on a leave of absence from the MS in Medical Physiology program. The remaining 12 hours of elective courses required for the stand-alone MBA degree would be satisfied by accepting 12 hours of course work from the MS program (the two, 6 credit hour Medical Physiology I PHOL 481 and II PHOL 482 courses). Therefore, a student saves 24 hours of course work by doing the dual degree program rather than each program separately. The dual degree program will require 5 semesters to complete. In the first year of the dual degree program, the students will be required to complete 18 credit hours of required/mandatory MS in Medical Physiology core courses over 2 semesters. This will be followed by three semesters of required/mandatory management core courses and electives (48 credit hours).

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Proposed Curriculum

FALL #1 (9 credit hours) MS Program		SPRING #1 (9 credit hours) MS Program	
PHOL 481	Medical Physiology I (6 cr. hr)	PHOL 482	Medical Physiology II (6 cr. hr)
PHOL 483	Translational Physiology (2 cr. hr)	PHOL 484	Translational Physiology (2 cr. hr)
PHOL 499	Physiology Seminar (1 cr.hr)	PHOL 499	Physiology Seminar (1cr.hr)
FALL #2 (18 credit hours) MBA Program		SPRING #2 (18 credit hours) MBA Program	
ACCT 401	Financial & Managerial Accountancy (3 cr. hr.)	MBAC 507	Operations & Supply Chain Mgmt (3 cr. hr)
MBAC 504	Corporate Finance I (3 cr. hr)	MBAC 508	Strategic Issues & Applications (3 cr. hr)
MBAC 512	Economics (3 cr. hr)	MBAC 506	Marketing & Supply Chain (3 cr. hr)
MBAC 515	Leading People and Organizations (3 cr. hr)	MBAC 517	Mgmt Perspectives & Dialogues (3 cr. hr)
MBAC 511	Statistics & Decision Modeling (3 cr. hr)	ELECT 1	Elective 1 (3 cr. hr)
MIDS420/ORBH 430	Design in Management/Institute in Sustainable Value (3 cr. hr)	MIDS420/ORBH 430	Design in Management/Institute in Sustainable Value (3 cr. hr)
SUMMER # 2 – INTERNSHIP MBA Program (Strongly Recommended)			
FALL #3 (12 cr.hr) MBA Program			
ELECT 2	Elective 2 (3 cr. hr)		
ELECT 3	Elective 3 (3 cr. hr)		
ELECT 4	Elective 4 (3 cr. hr)		
ELECT 5	Elective 5 (3 cr. hr)		

Refer to section XI for the approved list of electives available at the Weatherhead School of Management).

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IV. Dual Degree Curriculum Summary

Students interested in completing the dual degree should apply to both programs and consult both programs early in the process to avoid difficulties.

The Curriculum has 3 parts:

- 1. Core MS in Medical Physiology program (18 credit hours)**
- 2. Core + 1 Business Elective from Weatherhead School of Management (36 credit hours)**
- 3. Electives from Weatherhead School of Management (12 credit hours)**

Credit Hour Minimum Requirements

Total Hours in the Business School:	48
Total Hours in the Medical School:	18
Total Hours in the Dual Degree Program:	66

Dual Degree Requirements

- ✓ Maintain a greater than 3.0 GPA in the 18 credit hours of MS in Medical Physiology courses and the 12 elective hours accepted from the MBA program (see the list of courses that are accepted as MS in Medical Physiology electives above)
- ✓ Pass the Physiology and Neurophysiology National Board examinations (taken after completion of the core physiology courses)
- ✓ Maintain a 2.5 GPA or higher in Weatherhead courses
- ✓ Maintain C or higher grade in WSOM core courses.

Additional academic policies of each school will be followed and can be discussed with the respective liaison of the programs.

V. Dual Degree Student Advising System

For the MS in Medical Physiology portion of the dual degree program, the Director of the MS in Medical Physiology program, Dr. Thomas M. Nosek, will serve as the Academic Advisor and Dr. Joseph LaManna, a member of the MS in Medical Physiology Administration Committee, will serve as the Career Advisor.

In the Weatherhead School of Management, dual degree students will be advised by the Associate Dean of MBA Program – Dr. Simon Peck.

Twice a year, immediately after the end of the fall and spring semesters, or more frequently if necessary, the Associate Dean of MBA Programs at the WSOM and the Director of the MS in Medical Physiology Program of the Department of Physiology and Biophysics will meet to discuss the progress of all students in the program. Students performing unsatisfactorily in the MBA or the MS components of the program or both, will be given warning that they will have one semester to

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show substantial improvement. If not, they will be dismissed from the component(s) in which they are performing poorly.

VI. Admissions

Target enrollment in the program is 15 or more students, achieved by admission of at least 5 students annually. Students wishing to enroll in the dual degree program must be separately admitted to each program and should express their interest in the dual degree program at the time of application. The Weatherhead School of Management will waive the GMAT requirement for admission to the MBA program and use the MCAT/DAT or GRE scores as used in the MS Medical Physiology Program admissions process. Once the program is up and running, students will be able to submit a joint application to the Department of Physiology and Biophysics, which will forward materials of students who are admissible to that program, to the WSOM for their consideration. Once students have been admitted, they will consult with the Department of Physiology & Biophysics Academic Advisor and Associate Dean for MBA Programs at the Weatherhead School of Management to determine their appropriate course of study. Students in the MS in Medical Physiology program may also apply to the joint program during their first year of studies.

VII. Tuition Revenue Mechanics

A Memorandum of Agreement about the management of tuition revenues will exist between the School of Medicine and the Weatherhead School of Management. Because the MS/MBA students will begin in the MS program in the School of Medicine, all 66 credit hours of tuition will be paid by the student at the “market rate” charged by the Medical School (currently ~\$1,660/credit hour). The Weatherhead School of Management will request reimbursement from the Medical School for 48 credit hours of tuition at the “market rate” charged by the Weatherhead School of Management (currently ~\$1,466/credit hour). The home base for the students will be the Department of Physiology and Biophysics in the School of Graduate Studies.

VIII. Approval Signatures:

Dean, Weatherhead School of Management <i>Dr. Robert E. Widing</i>	X
Chair, Department of Physiology and Biophysics <i>Dr. Walter F. Boron</i>	X
Dean, School of Medicine <i>Dr. Pamela B. Davis</i>	X
Dean, School of Graduate Studies Dr. Charles Rozek	X

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IX. Student Activities:

Both the Dean for MBA Programs of the WSOM and the MS/MBA Academic Advisor in the Department of Physiology and Biophysics will regularly contact students in the program by email with information about activities and to verify proper progress.

Students are encouraged to participate in regular WSOM and Department of Physiology and Biophysics activities as well as other activities targeted to them. Under the direction of the Associate Dean for MBA Programs of the WSOM, all MBA students enrolled in dual degree program will meet bi-annually in a colloquium retreat (approximately one-half day in length). The purposes of the retreat are (1) to ensure the programs are meeting the expectations of the students and the faculty in charge, (2) to capture the benefits of the interdisciplinary experience, (3) to socialize the dual degree students as a group, instead of small groups of isolated students, and (4) to explore the intellectual and professional challenges of doing interdisciplinary work.

In addition, prior to registration, the Associate Dean of MBA Programs meets with each dual degree student to review their schedule and to explore any other issues on which they need guidance and advice. All new dual degree students will be partnered with two experienced students (constituting a Peer Advisory System) to address questions the students may have about the program and life as a graduate student at Case. These students will initially be drawn from the ranks of WSOM and Physiology and Biophysics MS students, but when the program is up and running, from advanced dual degree MS/MBA students. A get-acquainted dinner will be organized during registration week in the fall to facilitate this process. It is strongly recommend that first year students have a monthly activity with their peer advisors.

Other appropriate activities for the MS/MBA students include attending the weekly Departmental Seminar and Student Seminars, as well as annual named lectureships, participating in annual retreats. All dual degree students are required to attend the yearly Department of Physiology and Biophysics retreat (typically held in October) and are encouraged to attend the yearly picnic, baseball outing, and December Holiday party as well as participate in the twice-monthly Friday "Happy Hours" in the department.

X. Advantages of the Joint Degree Program

There are several advantages to the students in the MS/MBA program. The key advantage will be that the students will develop a unique focus on their studies in each of the two disciplines. In addition, the usual Master's of Science in Medical Physiology is a two year program but the students in the joint degree program will be able to complete the program requirements in just 9 months (2 semesters) beyond the time required for obtaining the MBA degree which is reduced from the typical 4 semesters to 3 semesters. Students will take a total of 24 fewer credit hours of courses by completing the dual degree program rather than satisfying the requirements for the two program independently.

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XI. Weatherhead School of Management Elective Courses

Dual degree candidates are required to take 18 credit hours from the following list of elective courses.

ACCT 403	Survey of Accounting
ACCT 414	Corporate Reporting & Analysis
ACCT 418	Fraud, Governance and Reporting
ACCT 431	Tax Practice: Analysis, Planning and Communications
ACCT 480	International Tax
ACCT 495	Advanced Accounting Seminar: Taxation & Wealth Transfer
ACCT 495	Advanced Accounting Seminar: Taxation & Pers Fin Planning
ACCT 495	Advanced Accounting Seminar: Tax Reporting & Nonprofits
ACCT 495	Advanced Acct. Seminar – Val. Of Tax Liabilities
ACCT 495	Advanced Acct. Seminar – Forensics & Fraud
BAFI 403	Financial Management
BAFI 404	Financial Modeling
BAFI 427	Green Finance
BAFI 428	Financial Strategy & Value Creation
MSFI 430/BAFI 430	Derivatives of Risk Management
BAFI 440	Advanced Corporate Finance
BAFI 444	Entrepreneurial Finance
BAFI 450	Mergers & Acquisitions
BAFI 480	International Financial Management
BLAW 417	Legal Environment for Managers – MBA
ECON 421	Health Economics & Strategy
ENTP 419	Entrepreneurship and Personal Wealth Creation
ENTP 428	Entrepreneurship & Innovation
ENTP 444	Entrepreneurial Finance
LHRP 431	Negotiation for Managers
MGMT 440	Leadership Assessment and Development II
MGMT 464	Business Ethics
MGMT 467	Commercialization & Intellectual Property Management aka FUSION
MIDS420 A & B	Design in Management: Concept and Practices
MKMR 405	Business Marketing
MKMR 408	Marketing Metrics
MKMR 411	Customer Relationship Management
MKMR 421	Marketing Value Creation
OPMT 420	Six Sigma and Quality Management
OPMT 450	Project Management
MKMR/OPMT 475	Supply Chain Logistics

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MKMR/OPMT 476	Strategic Sourcing
OPMT 477	Enterprise Resource Planning in the Supply Chain
OPRE 402	Stochastic Models with Applications
OPRE 411	Optimization Modeling
OPRE 432	Computer Simulation
OPRE 433	Probability, Forecasting & Statistics
OPRE 435B	Integrated Problem Solving in OR and SC
ORBH 403	Developing Interpersonal Skills for Managers
ORBH 430 A & B	MBA Institute In Sustainable Value and Social Entrepreneurship I & II
ORBH 450	Executive Leadership
ORBH 460	Women in Organizations
ORBH 491	Managing Diversity and Inclusion
PLCY 419	Entrepreneurship and Personal Wealth Creation
PLCY 425	Chief Executive Officer
PLCY 494	Managerial Consultancy