

Status: PENDING

PROGRAM REQUEST
Biomedical Science

Last Updated: Lucey, Catherine Reinis
02/10/2011

Fiscal Unit/Academic Org	School of Biomedical Sciences - D2506
Administering College/Academic Group	The College of Medicine
Co-administering College/Academic Group	
Semester Conversion Designation	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
Current Program/Plan Name	Biomedical Science
Proposed Program/Plan Name	Biomedical Science
Program/Plan Code Abbreviation	BIOMSCI-BS
Current Degree Title	Bachelor of Science in Allied Health Professions

Credit Hour Explanation

Program credit hour requirements	A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program	181	120.7	122	1.3
Required credit hours offered by the unit	Minimum			
	Maximum	42	28.0	1.0
Required credit hours offered outside of the unit	Minimum			
	Maximum	137	91.3	1.7
Required prerequisite credit hours not included above	Minimum			
	Maximum			

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

- Program Learning Goals**
- Provide OSU undergraduate students an identity associated with the breadth of The Ohio State University Medical Center's educational and research opportunities using research of human disease as a unifying theme.
 - Inspire student-directed achievement by presenting opportunities through which student motivation, interests and talents allows them to develop an individualized record of outstanding achievement.
 - Set high expectations and standards in a non-competitive and nurturing environment.
 - Develop longitudinally the core competencies of the program's learning goals.
- BMS graduates will be able to demonstrate advanced:
- 1) Critical thinking
 - 2) Verbal and written communication
 - 3) Team work
 - 4) Peer and self evaluation

Status: PENDING

PROGRAM REQUEST
Biomedical Science

Last Updated: Lucey,Catherine Reinis
02/10/2011

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? Yes

Summarize how the program's current quarter-based assessment practices will be modified, if necessary, to fit the semester calendar.

The Biomedical Science major accepted the first class in September 2005 and has not undergone a significant program revision in its short history. The major will undergo minimal program changes as a result of the conversion to semesters. Potential changes include the following:

1) BMS 2800, Laboratory Techniques, will be offered as an intensive maymester experience. The longer class periods/day will allow the time necessary to conduct laboratory procedures that were difficult to complete in the time allotted to laboratories under the quarter system.

2) BMS 4200 & 4210, Concepts in Health Care, will be reduced from three topics (doctor-patient relationship, healthcare organization and finance, and leadership in healthcare) to a two semester sequence that will combine these topics

3) BMS 4810, 4820 & 4830, Special Topics in Biomedical Science, will be reduced from the required three integrated topics (Immunology/Infectious Disease, Genetics/Neurologic Disease, and Cancer) to two each year. These courses will be offered on a rotating basis. Additional course topics will be developed to allow students a choice of two that matches or complements their career goals. Additional changes in the Biomedical Science Major are driven by changes in programs outside of the major.

There is no change in the assessment plan associated with semester conversion.

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- SAMP Cover Letter & Transition Plan.pdf: Unit Letter and Transitional Proposal

(Letter from Program-offering Unit. Owner: Robinson-Easter,Regina Marie)

- BMS_PROGRAM_Aug_19_2010_DL.doc: BMS Proposal

(Program Proposal. Owner: Robinson-Easter,Regina Marie)

- %COM Semester Conversion Letter 12 10 10.pdf

(Letter from the College to OAA. Owner: Lucey,Catherine Reinis)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Robinson-Easter,Regina Marie	01/26/2011 04:21 PM	Submitted for Approval
Approved	Robinson-Easter,Regina Marie	01/26/2011 04:23 PM	Unit Approval
Approved	Larsen,Deborah Sue	02/04/2011 11:49 AM	SubCollege Approval
Approved	Lucey,Catherine Reinis	02/10/2011 02:07 PM	College Approval
Pending Approval	Soave,Melissa A	02/10/2011 02:07 PM	CAA Approval



Office of the Dean
College of Medicine

254 Meiling Hall
370 West 9th Avenue
Columbus, OH 43210
Phone: 614.292.2600 / Fax: 614.292.4254

December 10, 2010

Randy Smith, PhD
Vice Provost, Curriculum & Institutional Relations
Office of Academic Affairs
203 Bricker Hall
CAMPUS

Dear Dr. Smith:

The College of Medicine submits for approval the following programs for semester conversion:

Baccalaureate Programs (School of Allied Medical Professions):

- 1) Athletic Training
- 2) Biomedical Sciences
- 3) Health Information and Management Systems
- 4) Health Sciences
- 5) Medical Dietetics
- 6) Medical Technology
- 7) Radiologic Sciences and Therapy with subprograms in Radiation Therapy, Radiography and Sonography
- 8) Respiratory Therapy

Minors:

- 1) Integrated Determinants of Health (School of Allied Medical Professions)
- 2) Anatomy (School of Biomedical Sciences, Dept. of Biomedical Informatics)

Masters Degree Programs:

- 1) Masters of Occupational Therapy (School of Allied Medical Professions)
- 2) MS in Allied Medical Professions (School of Allied Medical Professions)
- 3) MS in Anatomy (School of Biomedical Sciences, Department of Biomedical Informatics)
- 4) MS in Medical Sciences (College of Medicine)
- 5) MS in Pathology (School of Biomedical Sciences, Dept of Pathology)
- 6) MS in Pharmacology (School of Biomedical Sciences, Dept. of Pharmacology)

Doctoral Degree Programs:

- 1) Doctor of Physical Therapy [DPT] (School of Allied Medical Professions)
- 2) Doctor of Medicine [MD] (College of Medicine)

- 3) PhD in Health and Rehabilitation Sciences (School of Allied Medical Professions)
- 4) PhD in Integrated Biomedical Sciences [IBGP] (School of Biomedical Sciences)
- 5) PhD in Anatomy (School of Biomedical Sciences, Dept. of Biomedical Informatics)

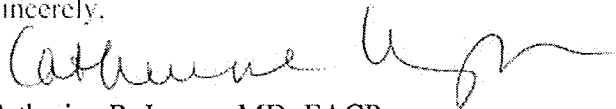
Each program proposal has been carefully developed with considerable curricular review and appropriate unit approval; letters delineating the process and approval accompany each template. At the College level, all proposals have been reviewed and approved through the College's Curriculum Review process. Accordingly, each program has developed a transition plan that will allow students that maintain good academic standing to complete their respective program without delay due to the semester conversion. These transition plans are included with each program template. The course templates for all courses have also been submitted for approval. Please contact me or Deborah S. Larsen, our semester conversion coordinator, with any questions; specific questions regarding individual templates may be directed through Dr. Larsen to the appropriate contact person. Contact information is as follows:

Catherine R. Lucey, MD, FACP
Phone: 688-3104
e-mail: Catherine.lucey@osumc.edu

Deborah S. Larsen, PhD
Phone: 292-5645
e-mail: Deborah.larsen@osumc.edu

Thank you for the review of these materials.

Sincerely,



Catherine R. Lucey, MD, FACP
Interim Dean and Vice Dean of Education
The Ohio State College of Medicine



January 25, 2011

Catherine R. Lucey, MD
Interim Dean and Vice Dean for Education
College of Medicine
260 Meiling Hall
CAMPUS

Dear Dr. Lucey:

On behalf of the School of Allied Medical Professions, I am pleased to submit the semester conversion plans for the following programs:

Certificates:

- 1) Health Information Management and Systems
- 2) Medical Technology – proposed name change to Medical Laboratory Sciences
- 3) Respiratory Therapy

Baccalaureate (BS in Allied Health)

- 1) Athletic Training – degree change to BS in Athletic Training
- 2) Biomedical Sciences
- 3) Health Information Management and Systems
- 4) Health Sciences
- 5) Medical Dietetics
- 6) Medical Technology – proposed name change to Medical Laboratory Sciences
- 7) Radiation Therapy
- 8) Radiography
- 9) Respiratory Therapy

Graduate

- 1) Masters of Occupational Therapy (MOT)
- 2) Masters of Science in Allied Medical Professions (MS)
- 3) Doctor of Physical Therapy (DPT)
- 4) Doctor of Philosophy in Health and Rehabilitation Sciences (PhD)

Minor:

- 1) Integrated Determinants of Health

The conversion of each of these programs was initiated through two School-wide retreats, comprehensive curriculum mapping, conducted by our Executive Committee, and multiple working groups within and between programs. Each curriculum was reviewed and revised consistent with current healthcare practice and, for many, their accreditation criteria. For the undergraduate programs, working groups revised and amended our elective core courses; it was recommended that each program enroll students in the core courses rather than teach individual unit courses, which was done by all programs, consistent with content needs. Our entry-level graduate programs (Occupational Therapy and Physical Therapy), also developed a core evidence-based practice sequence to encourage collaborative problem-solving among students in those two programs. One course, AM 5000 "Strategies for Interprofessional Case Management", is a new elective course that will provide interdisciplinary case management exposure to students from all of the programs in the School; due to the high number of credits within each curriculum, this course is recommended but not required. Each curriculum was approved by the faculty within the respective program and by the School's curriculum committee on the following dates:

- 1) Respiratory Therapy – approved 7/14/2010
- 2) Medical Technology – approved 8/5/2010
- 3) Medical Dietetics – approved 8/11/2010
- 4) Radiologic Sciences & Therapy – approved 8/11/2010
- 5) Occupational Therapy – approved 8/11/2010
- 6) Biomedical Sciences – approved 8/18/2010
- 7) Physical Therapy – approved 8/19/2010
- 8) Athletic Training – approved 9/15/2010
- 9) MS in Allied Medicine – approved 9/15/2010
- 10) PhD in Health and Rehabilitation Sciences – approved 9/15/2010
- 11) Health Information Management and Systems – approved 9/22/2010

In reviewing the clinical experiences of students in each program, it was noted that there was no standard credit hour allocation for the full or part-time clinical experiences. Our Executive Committee voted unanimously to impose a consistent credit hour allocation, based on the following formula: Full-time (40hr/week, 14 weeks) = 12 credits for undergraduate and 8 for graduate programs; 20 hr/week = 6 credits for undergraduate, 4 for graduate; 10 hr/wk = 3 credits for undergraduate and 2 for graduate; and so on. Some programs have implemented 7 week clinical experiences that follow the same proportional allocation (i.e. 7 week, full time = 6 credits). This change often distorted the 2/3 conversion formula, since historically clinical experiences were under-credited; however, all programs were converted with minimal changes and have indicated such within their program templates.

In concert with the semester conversion, there are two program specific requests:

- 1) The Athletic Training program is requesting to change the degree awarded from Allied Health to Athletic Training to meet accreditation requirements;
- 2) The Medical Technology program is requesting to change the name of their program to Medical Laboratory Science, which is consistent with their licensure and accreditation recommendations.

These changes have been approved by the School's Executive Committee by unanimous vote on 12-7-10 and the Faculty Council on 1-21-11.

If you should have any questions or concerns, please feel free to contact me directly.

Sincerely,



Deborah S. Larsen, PhD
Director, School of Allied Medical Professions
Associate Dean, College of Medicine
614-292-5645
deborah.larsen@osumc.edu

PROGRAM Proposal
Biomedical Science Undergraduate Major

SEMESTER COURSES

Biomedical Science Required Coursework

BMS 1000 Survey (1 sem. Hr.)
BMS 2891H Mastering the Biomedical Science Literature I (2 Sem. Hr.)

BMS 2892H Mastering the Biomedical Science Literature II (2 Sem. Hr.)
BMS 2900H Laboratory Techniques in Biomedical Science (2 Sem. Hr.)

BMS 3891H Biomedical Research Experience I (5 Sem. Hr.)
BMS 3892H Biomedical Research Experience II (5 Sem. Hr.)

BMS 4200 Concepts in Healthcare I; Humanistic and Social Issues in Medicine & Biomedical Science (3 Sem. Hr.)
BMS 4210: Concepts in Healthcare II; Health Policy and Leadership (3 Sem. Hr.)

Two of the following will be required:

BMS 4810: Special Topics in Biomedical Science I: Immunology & Infectious Disease (3 Sem. Hr.)
BMS 4820: Special Topics in Biomedical Science II: Genetics & Neurologic Disease (3 Sem. Hr.)
BMS 4830: Special Topics in Biomedical Science III: Cancer Research; Bench to Bedside and Back (3 Sem. Hr.)

Directed Science Electives:

- 16 Semester Hours Total
- At least 8 Semester Hours within the School of Biomedical Science

Required Science Courses

Biology

- Biology XXXXX; Biology 1 (4 Semester Hours)
- Biology XXXXX; Biology 2 (4 Semester Hours)

Math

- Math 1251; Calculus 1 (5 Semester Hours)
- Math 1252: Calculus 2 (5 Semester Hours)

Chemistry

- Chemistry XXXXX; General Chemistry 1 (5 Semester Hours)
- Chemistry XXXXX; General Chemistry 2 (5 Semester Hours)
- Chemistry XXXXX; Organic Chemistry 1 (4 Semester Hours)
- Chemistry XXXXX; Organic Chemistry 2 (4 Semester Hours)
- Chemistry XXXXX; Organic Chemistry Lab 1 (2 Semester Hours)
- Chemistry XXXXX; Organic Chemistry Lab 2 (2 Semester Hours)

Physics

- Physics 1200; Intro Algebra-based Physics (5 Semester Hours)
- Physics 1201; Intro Algebra-based Physics (5 Semester Hours), or
- Physics 1250; Intro Calculus-based Physics (5 Semester Hours)
- Physics 1251; Intro Calculus-based Physics (5 Semester Hours)

Statistics

- Statistics 2480; Title (3 Semester Hours), or
- Statistics 2450; Title (3 Semester Hours)

Other

- GEC (24 Sem. Hr.)
- Electives (0 Sem. Hr.)

CURRICULAR MAP

Required BMS Courses	Critical Thinking	Program Learning Goals		
		Verbal & Written Communication	Team Work	Peer & Self Evaluation
BMS 1000	beginning			
BMS 2891H	beginning	beginning	beginning	beginning
BMS 2892H	intermediate	intermediate	intermediate	-
BMS 2900H	intermediate	beginning	intermediate	-
BMS 3891H	advanced	advanced	-	advanced
BMS 3892H	advanced	advanced	-	advanced
BMS 4200	advanced	advanced	advanced	advanced
BMS 4210	advanced	advanced	-	-
BMS 4810	advanced	advanced	advanced	advanced

BMS 4820	advanced	advanced	advanced	advanced
BMS 4830	advanced	advanced	advanced	advanced
Required Outside Courses				
Directed SBS Science Electives	advanced			
Other Science				
Math 1251, 1252	beginning			
Biology (1113, 1114)	beginning			
Gen Chem	beginning			
OChem	beginning			
Physics 1200, 1201	beginning			
Statistics 2480	beginning			

RATIONALE

The Biomedical Science major accepted the first class in September 2005 and has not undergone a significant program revision in its short history. The major will undergo minimal program changes as a result of the conversion to semesters. Potential changes include the following:

- 1) BMS 4200 & 4210, Concepts in Health Care, will be reduced from three topics (doctor-patient relationship, healthcare organization and finance, and leadership in healthcare) to a two semester sequence that will combine these topics
- 2) BMS 4810, 4820 & 4830, Special Topics in Biomedical Science, will be reduced from the required three integrated topics (Immunology/Infectious Disease, Genetics/Neurologic Disease, and Cancer) to two each year. These courses will be offered on a rotating basis. Additional course topics will be developed to allow students a choice of two that matches or complements their career goals.

Additional changes in the Biomedical Science Major are driven by changes in programs outside of the major.

TRANSITION POLICY

The Biomedical Science Major (BMS) consists of a sequence of 15 quarter courses that have been modified to a sequence of 10 semester courses. Since the class size is small (20-25 students), BMS classes are given once a year and students, therefore, take them in sequence. Content has been modified to accommodate the semester schedule; however, content has not been moved from year-to-year. BMS students will continue to take BMS semester courses sequentially. Each class of BMS students will transition simply to the semester sequence in the fall of 2012. Students who fail a class will have to wait a year and may be unable to progress within a given sequence until the class is retaken, which could delay graduation. Similarly, students who take a leave of absence may have to retake a portion of completed material that is now combined within a semester course.

Appendix A
Bachelor of Science Allied Health Professions; Biomedical Science Major
Quarter Suggested Scheduling Plan

Quarter	First Year	Second Year	Third Year	Fourth Year
AU	Chem 121/H201	Chem (H)251	Physics 111/131	BMS 521
	Math 151	Science Elective	BMS H720.01	BMS 581
	English H110	GEC	Science Elective or GEC	Science Electives or GEC
	BMS 100	BMS H320.01		
	Total Hrs/Qtr	16	15	15
WI	Chem 122/H202	Chem (H)252	Physics 112/132	BMS 522
	Math 152	Chem 254	BMS H720.02	BMS 582
	Biology 113/H115	Science Elective or GEC	Science Elective or GEC	Science Electives or GEC
	BMS H220.01	BMS H320.02		
	Total Hrs/Qtr	17	13	15
SP	Chem 123/H203	Chem (H)253	Physics 113/133	BMS 523
	Biology 114/H116	Chem 255	BMS H720.03	BMS 583
	Stats 218	BMS H480	Science Elective or GEC	Free Electives
	BMS H220.02	Science Elective or GEC		Science Elective or GEC
	Total Hrs/Qtr	16	15	15
Total Hrs/Yr	49	43	45	44
Total Hrs/ Program				181

Appendix B

Biomedical Science Major
Semester Advising Sheet

Semester	First Year		Second Year		Third Year		Fourth Year	
	Course	Units	Course	Units	Course	Units	Course	Units
AU	BMS Survey 1000	1	BMS 2892H	2	BMS 3891H	5	BMS 4200	3
	Biology 1	4	Organic Chem 1	4	Physics 1200	5	BMS 4810/20/30	3
	Gen Chemistry 1	5	Organic Chem Lab 1	2	Science Elective	4	Science Elective	4
	Math 1251	5	Statistics 2480	3	GEC	3	GEC	3
	English (110)	3	GEC	3				
	Total Units/Semester	18	Total Units/Semester	14	Total Units/Semester	17	Total Units/Semester	13
SP	BMS 2891H	2	Organic Chem 2	4	BMS 3892H	5	BMS 4210	3
	Biology 2	4	Organic Chem Lab 2	2	Physics 1201	5	BMS 4810/20/30	3
	Gen Chemistry 2	5	Science Elective	4	Science Elective	4	GEC	3
	Math 1252	5	GEC	3	GEC	3	GEC	3
			BMS 2900H	2				
	Total Units/Semester	16	Total Units/Semester	15	Total Units/Semester	17	Total Units/Semester	12
MAY								
	Total Units/Year	34	Total Units/Year	29	Total Units/Year	34	Total Units/Year	25
						Total Units/Program	122	

Biomedical Science Major:					
Required	Units	Required	Units	Science Electives	Units
BMS Survey 1000	1	**Biology 1	4	Science Elective	4
BMS 2891H	2	**Gen Chemistry 1	5	Science Elective	4
BMS 2892H	2	**Math 1251	5	Science Elective	4
BMS 2900H	2	**Biology 2	4	Science Elective	4
BMS 3891H	5	**Gen Chemistry 2	5	Total Science Electives	16
BMS 3892H	5	**Math 1252	5		
BMS 4200	3	Organic Chem 1	4	GEC	Units
BMS 4210	3	Organic Chem Lab 1	2	English (110)	3
BMS 4810/20/30	3	**Statistics 2480	3	GEC-2	3
BMS 4810/20/30	3	Organic Chem 2	4	GEC-3	3
BMS Total	29	Organic Chem Lab 2	2	GEC-4	3
		**Physics 1200	5	GEC-9	3
		**Physics 1201	5	GEC-10	3
		Total Outside Science	53	GEC-11	3
		**Double GEC 5-8, 13-14	41	GEC-12	3
				Total GEC	24
				Program Total Units	122

Last updated: March 9, 2011; BAB