

### PROGRAM MODIFICATION PROPOSAL FORM

Name of Institution: Medical University of South Carolina

Briefly state the nature of the proposed modification (e.g., adding a new concentration, extending the program to a new site, curriculum change, etc.): To offer the option for MD students who complete the first three semesters of medical school at MUSC (but who do not earn the MD degree) to be awarded a Master of Science in Medical Sciences (an existing, approved degree program at MUSC).

Current Name of Program (include degree designation and all concentrations, options, and tracks):  
MS Medical Sciences (no specified options)

Proposed Name of Program (include degree designation and all concentrations, options, and tracks):  
MS Medical Sciences (add MD Off Ramp option)

Program Designation:

- |                                                                                                                 |                                                                                      |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <input type="checkbox"/> Associate's Degree                                                                     | <input checked="" type="checkbox"/> Master's Degree                                  |
| <input type="checkbox"/> Bachelor's Degree: 4 Year                                                              | <input type="checkbox"/> Specialist                                                  |
| <input type="checkbox"/> Bachelor's Degree: 5 Year                                                              | <input type="checkbox"/> Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA) |
| <input type="checkbox"/> Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.) |                                                                                      |

Does the program currently qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?

- Yes  
 No

If No, should the program be considered for supplemental Palmetto Fellows and LIFE Scholarship awards?

- Yes  
 No

Proposed Date of Implementation: May 1, 2019

CIP Code: 26.0102

Current delivery site(s) and modes: Medical University of South Carolina

Proposed delivery site(s) and modes: Traditional/face-to-face

Program Contact Information (name, title, telephone number, and email address):

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ACAP  
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Agenda Item 6k

Institutional Approvals and Dates of Approval:  
College of Graduate Studies Curriculum Committee: June 13, 2016  
MUSC Education Advisory Council: Sept 19, 2018  
MUSC Provost Council: Sept 20, 2018  
MUSC Board of Trustees: Oct 12, 2018

### Background Information

Provide a detailed description of the proposed modification, including target audience, centrality to institutional mission, and relation to strategic plan.

The proposed program modification is to offer an option within the current MS Medical Sciences degree (MSMS) to serve as a stop-out degree for medical students who are unable to complete the MD degree but who do complete the first three semesters of medical school, which provide comparable educational content and competencies as the current MSMS degree curriculum. **This stop-out degree is a marketable degree the graduate can use to gain immediate employment.**

The target audience for this option is medical students at MUSC (only). It is central to MUSC's mission to train the next generation of healthcare providers by ensuring that students who have gained substantial knowledge relevant to delivering health care (including basic science education, communication skills, and fundamentals of patient care) are able to benefit society through employment in a health-related field.

### Assessment of Need

Provide an assessment of the need for the program modification for the institution, the state, the region, and beyond, if applicable.

The need to be addressed is that students at MUSC who do not complete all the requirements to earn an MD degree are currently left with no credential--despite substantial medical sciences knowledge--on which to build his/her alternative career. While the vast majority of students who enroll in the MD degree program complete the degree, a student may complete the preclinical curriculum, but not the entirety of the degree for various reasons, including illness, interest in other career paths, or failure to pass the United States Medical Licensing Examinations (USMLE) in three attempts as required by our program. In addition, students who leave medical school have often acquired significant educational debt. **Allowing these students to earn the MS Medical Sciences degree currently offered by MUSC (a degree which we have determined shares required competencies with the knowledge gained in the first three semesters of medical school) would improve their success in the job market.**

These graduates may seek employment as patient advocates, biomedical research assistants, medical scribes, pharmaceutical representatives, health educators, lab technicians, and clinical trial coordinators in physician offices, academic institutions, or industry. The Bureau of Labor Statistics reports that of the top 30 fastest growing occupations (projected growth from 2016 to 2026, see <https://www.bls.gov/emp/tables/fastest-growing-occupations.htm>), half are in the health care sector. The proposed degree option would recognize the competencies acquired by these health care graduates and support their success in their employment pursuits.

### Transfer and Articulation

Identify any special articulation agreements for the modified proposed program. Provide the articulation agreement or Memorandum of Agreement/Understanding.

N/A

**Description of the Program**

| Projected Enrollment |                |       |                  |       |                  |       |
|----------------------|----------------|-------|------------------|-------|------------------|-------|
| Year                 | Fall Headcount |       | Spring Headcount |       | Summer Headcount |       |
|                      | New            | Total | New              | Total | New              | Total |
| 2018-2019            | 0              | 0     | 2                | 2     | 0                | 0     |
| 2019-2020            | 1              | 1     | 2                | 3     | 0                | 0     |
| 2020-2021            | 1              | 1     | 2                | 3     | 0                | 0     |
| 2021-2022            | 1              | 1     | 2                | 3     | 0                | 0     |

Explain how the enrollment projections were calculated.

MD students who complete the first three semesters (Fall, Spring, Summer) of medical school at MUSC are eligible to receive the stop-out MSMS degree. We anticipate that 1 student will qualify to take advantage of this option in each cohort (as of start of Fall semester their second year). We anticipate that another 2 students in the cohort will qualify to take advantage of this option following Fall semester (so that Spring headcount=3). The MSMS degree would be conferred to these individuals each Spring.

**Curriculum**

Attach a curriculum sheet identifying the courses required for the program.

**Curriculum Changes**

| Courses Eliminated from Program              | Courses Added to Program | Core Courses Modified |
|----------------------------------------------|--------------------------|-----------------------|
| See attached crosswalk for MD to MSMS degree |                          |                       |
|                                              |                          |                       |
|                                              |                          |                       |

**New Courses**

List and provide course descriptions for new courses.

N/A; see attached crosswalk for MD to MSMS degree.

**Similar Programs in South Carolina offered by Public and Independent Institutions**

Identify the similar programs offered and describe the similarities and differences for each program.

| <b>Program Name and Designation</b> | <b>Total Credit Hours</b> | <b>Institution</b> | <b>Similarities</b> | <b>Differences</b> |
|-------------------------------------|---------------------------|--------------------|---------------------|--------------------|
| None                                |                           |                    |                     |                    |
|                                     |                           |                    |                     |                    |
|                                     |                           |                    |                     |                    |
|                                     |                           |                    |                     |                    |
|                                     |                           |                    |                     |                    |
|                                     |                           |                    |                     |                    |
|                                     |                           |                    |                     |                    |

### **Faculty**

State whether new faculty, staff or administrative personnel are needed to implement the program modification; if so, discuss the plan and timeline for hiring the personnel. Provide a brief explanation of any personnel reassignment as a result of the proposed program modification.

No new faculty, staff or administrative personnel are needed.

### **Resources**

Identify new library, instructional equipment and facilities needed to support the modified program.

Library Resources: None

Equipment: None

Facilities: None

### **Impact on Existing Programs**

Will the proposed program impact existing degree programs or services at the institution (e.g., course offerings or enrollment)? If yes, explain

Yes

No

**Financial Support**

| Estimated Sources of Financing for the New Costs                        |                 |                 |                 |                 |                 |       |
|-------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
| Category                                                                | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | 5 <sup>th</sup> | Total |
| Tuition Funding                                                         |                 |                 |                 |                 |                 |       |
| Program-Specific Fees                                                   |                 |                 |                 |                 |                 |       |
| Special State Appropriation                                             |                 |                 |                 |                 |                 |       |
| Reallocation of Existing Funds                                          |                 |                 |                 |                 |                 |       |
| Federal, Grant, or Other Funding                                        |                 |                 |                 |                 |                 |       |
| <b>Total</b>                                                            |                 |                 |                 |                 |                 |       |
| Estimated New Costs by Year                                             |                 |                 |                 |                 |                 |       |
| Category                                                                | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | 5 <sup>th</sup> | Total |
| Program Administration and Faculty and Staff Salaries                   |                 |                 |                 |                 |                 |       |
| Facilities, Equipment, Supplies, and Materials                          |                 |                 |                 |                 |                 |       |
| Library Resources                                                       |                 |                 |                 |                 |                 |       |
| Other (specify)                                                         |                 |                 |                 |                 |                 |       |
| <b>Total</b>                                                            |                 |                 |                 |                 |                 |       |
| <b>Net Total (i.e., Sources of Financing Minus Estimated New Costs)</b> |                 |                 |                 |                 |                 |       |

### Budget Justification

Provide a brief explanation for all new costs and sources of financing identified in the Financial Support table.

There are no new costs or special sources of financing for this program.

### Evaluation and Assessment

| Program Objectives                                                              | Student Learning Outcomes Aligned to Program Objectives | Methods of Assessment                                                                                   |
|---------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Prepare students for a future in healthcare sciences                            | Basic proficiency in basic sciences                     | Satisfactory performance in relevant courses in attached table                                          |
| Prepare students for a future in healthcare sciences                            | Basic proficiency in clinical sciences                  | Satisfactory performance in relevant courses in attached table                                          |
| Graduates exhibit professionalism required of healthcare professionals          | Professionalism in patient and peer interactions        | Satisfactory performance in Fundamental of Patient Care courses and Interprofessional Healthcare course |
| Graduates understand fundamental concepts in cell biology and disease processes | Basic proficiency in pathogens and host defenses        | Satisfactory performance in relevant courses in attached table                                          |

Will any the proposed modification impact the way the program is evaluated and assessed? If yes, explain.

Yes

No

MSMS graduates not in the MD off-ramp option will be evaluated on SLO's based on the assessment plan approved for the existing degree. MD off-ramp students will be evaluated on the SLO's based on the proficiencies they demonstrated in the courses they completed in their first three semesters of medical school. **All completed coursework in the MD curriculum fulfills the competencies and SLO's for the MS Medical Sciences degree, as confirmed through internal evaluation by faculty with appropriate expertise in the MD and MSMS degree programs.** No additional methods of assessment are required for the MD off-ramp students.

Will the proposed modification affect or result in program-specific accreditation? If yes, explain; and, if the modification will result in the program seeking program-specific accreditation, provide the institution's plans to seek accreditation, including the expected timeline.

Yes

No

Will the proposed modification affect or lead to licensure or certification? If yes, identify the licensure or certification.

Yes

No

Explain how the program will prepare students for this licensure or certification.



If the program is an Educator Preparation Program, does the proposed certification area require national recognition from a Specialized Professional Association (SPA)? If yes, describe the institution's plans to seek national recognition, including the expected timeline.

N/A

Yes

No

**Crosswalk for the College of Graduate Studies Master of Science in Medical Sciences (MSMS) Degree and the COM MD Degree Curriculum**

The MSMS requires a minimum of **33 credit hours** over three consecutive semesters and does not require a thesis. The MD degree requires 97 credit hours in the first three consecutive semesters, of which **81 credit hours** directly address the content in the MSMS degree. A crosswalk for how the curriculum of MD Program compares and maps to the existing curriculum of the MS in Medical Sciences is provided below:

| MSMS Degree Curriculum                                                      | Total Credit Hours | MD Degree Comparable Coursework                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Total Credit Hours |
|-----------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| BSC-702 Anatomy                                                             | 4                  | MDCOR-824-825 Structure and Function A and B. (16 hours)<br>This course is comprised solely of gross anatomy, histology and embryology, and normal physiology. Dissection labs are required in both semesters of the course.                                                                                                                                                                                                                                                                                                                           | 16                 |
| BSC-700 Histology                                                           | 4                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |
| BSC-712 Biochemistry                                                        | 3                  | MDCOR-822-823. Molecules and Energetics A and B. (16 hours)<br>This course is comprised solely of biochemistry content.                                                                                                                                                                                                                                                                                                                                                                                                                                | 16                 |
| CGS-700 Biostatistics                                                       | 4                  | MDCOR-703-704. Fundamentals of Patient Care 2A (8 hours)<br>One-third of the curriculum is dedicated to Biostatistics and Epidemiology. (5 hrs)<br>One third of the curriculum is dedicated to clinical reasoning and 5 required Hospital Teaching Rounds that address history taking, physical diagnosis, and patient encounter documentation for the hospitalized patient. (5 hrs)                                                                                                                                                                   | 8                  |
| MCR-724 Introduction to Clinical Trials or<br>MCR-736 Clinical Epidemiology | 3                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |
| BSC-710 Clinical Exposures                                                  | 1                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |
| BSC-714 Oral Immunobiology                                                  | 4                  | MDCOR-826-827. Pathogens and Host Defenses (PHD) 2A (8 hours)<br>This course is comprised solely of immunology and microbiology concepts in clinical medicine and public health application.                                                                                                                                                                                                                                                                                                                                                           | 8                  |
| BSC-716 Medical Microbiology                                                | 4                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |
| BSC-706 Professional Development<br>BSC-710 Clinical Exposures              | 1<br>1             | MDCOR-701-702. Fundamentals of Patient Care 1A - 1B. (16 hours)<br>This course addresses professional identity development, with a focus on careers in medicine, communication skills development, and the acquisition of professionalism values and attributes. This course also requires 5 PARTNERS Hospital shifts (4 hours each) that introduce students to the interprofessional clinical team.<br>IP 710 Transforming Health Care (1 hour)<br>Interprofessional health care course that teaches collaborative care and professional development. | 16<br>1            |



|                                                                                   |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |
|-----------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| BSC-708 Grand Rounds<br>BSC-718 Special Topics in Health Care                     | 1<br>2                    | The MD Curriculum implements 3 Symposia per year on topics of great relevance to health care and society (i.e., Opioid Epidemic, Obesity, and Emerging Diseases). Each symposium is a full day of grand rounds by distinguished regional and national speakers. Student attendance is required and knowledge is assessed on MD curriculum block examinations. (20 Contact hours that are part of the 16 Credits for MDCOR-826-827) |                           |
| MCR 789-08 Core Clinical Research Training                                        | 1                         | MDCOR-820-821 Homeostasis and Regulation (HR) - A and B . (16 hours)<br>All medical students must participate in a longitudinal thread of research lectures in the preclinical curriculum. In addition, students must complete the certification in the Miami CITI training.                                                                                                                                                       | 16                        |
| <b>MSMS degree requires 40 weeks over three semesters (summer, fall, spring).</b> | <b>Total Hours<br/>33</b> | <b>MD degree requires 49 weeks over the first 3 semesters (fall, spring, fall) = 97 total Credit Hours of which 81 Credit Hours map directly to the MSMS degree program.</b>                                                                                                                                                                                                                                                       | <b>Total Hours<br/>81</b> |

| <b>MSMS Degree Curriculum</b>              |                                  |
|--------------------------------------------|----------------------------------|
| <b>Summer Session (10 weeks)</b>           | <b>Total Credit Hours<br/>9</b>  |
| BSC-700 Histology                          | 4                                |
| BSC-706 Professional Development           | 1                                |
| BSC-710 Clinical Exposures                 | 1                                |
| BSC-718 Special Topics in Health Care      | 2                                |
| MCR 789-08 Core Clinical Research Training | 1                                |
| <b>Fall session (15 weeks)</b>             | <b>Total Credit Hours<br/>11</b> |
| BSC-702 Anatomy                            | 4                                |
| BSC-712 Biochemistry                       | 3                                |
| CGS-700 Biostatistics                      | 4                                |
| <b>Spring Session (15 weeks)</b>           | <b>Total Credit Hours<br/>13</b> |
| BSC-710 Clinical Exposures                 | 1                                |
| BSC-714 Oral Immunobiology                 | 4                                |

|                                                                                           |                                  |
|-------------------------------------------------------------------------------------------|----------------------------------|
| BSC-716 Medical Microbiology                                                              | 4                                |
| MCR-724 Introduction to Clinical Trials or<br>MCR-736 Clinical Epidemiology               | 3                                |
| BSC-708 Grand Rounds                                                                      | 1                                |
| <b>The MSMS degree requires 40 weeks over<br/>three semesters (summer, fall, spring).</b> | <b>Total Credit Hours<br/>33</b> |

[http://academicdepartments.musc.edu/grad/MS%20Medical%20Sciences/BSC\\_Student\\_Handbook\\_2017\\_Final.pdf](http://academicdepartments.musc.edu/grad/MS%20Medical%20Sciences/BSC_Student_Handbook_2017_Final.pdf)