Life Sciences for Grades 7-12 (Ed 612.25)
Program Approval Rating Matrix for REVIEWER

Institution Name: _____ Date of Visit: _____

Ed 612.25 Life Sciences For Grades 7-12.

Directions to the Reviewer: At the end of the visit, you will be asked to rate each standard in your content area using this Rating Matrix and the Program Approval Recommendation Form to recommend a level of approval for the program. Please follow the instructions at the top of columns 2, 3, and 4. The Rubric for determining the rating required in Column 2 for each standard is as follows:

ON STANDARD	APPROACHING STANDARD	STANDARD NOT MET
Candidates' opportunities address **all** of the competencies specified for the individual certification areas	Candidates' opportunities address **most** of the competencies specified for the individual certification areas	Candidates' opportunities address **some or none** of the competencies specified for the individual certification areas

Ed 612.25 Life Sciences For Grades 7-12	**RATING** **ON STANDARD** **or** **APPROACHING STANDARD** **or** **STANDARD NOT MET**	**RATIONALE** **[Required]** **Describe the reviewed evidence that lead to this rating**	**RECOMMENDATION** **[Required if rating is below 'on standard']** **SUGGESTION** **[Optional for 'on standard' or 'approaching standard']** **COMMENDATION** **[Optional]**
(a) A teacher preparation program in life sciences for grades 7-12 shall meet the science program general requirements of Ed 507.29(c).			
(b) The life sciences program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas:			
(1) In the area of fundamental content knowledge, the candidate shall have the ability to:			
a. Explain concepts, solve problems, use models, and perform both field and laboratory experiences in the following fundamental areas of life science:			

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1. Structure and functions, from molecules to organisms, as follows: (i) Evidence for structure of DNA determining structure of proteins; (ii) Hierarchical organization of interacting systems; and (iii) Feedback mechanisms that ensure homeostasis, including, but not limited to human systems;			
2. Inheritance and variation of traits as follows: (i) Role of mitosis to maintain complex organisms; (ii) Role of DNA and chromosomes in coding instructions that are passed through generations; (iii) New genetic combinations are a result of meiosis and mutations; and (iv) Statistics and probability to explain the variation and distribution of expressed traits;			

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3. Matter and energy in organisms and ecosystems as follows: (i) Role of photosynthesis, respiration, and fermentation in the needs of organisms as well as in the cycling of carbon in the biosphere, atmosphere, hydrosphere and geosphere; (ii) Carbon based molecules form the basis for life; (iii) Explain the cycling of matter and flow of energy in aerobic and anaerobic conditions; and (iv) Cycling of matter and flow of energy among organisms and ecosystems;			
4. Interdependent relationships in ecosystems; and			
5. Natural selection and evolution;			

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b. Apply mathematical modeling, statistical concepts, and manipulation of variables as they apply to life science; and			
c. Explain and solve problems in life science, incorporating the fundamental concepts of chemistry, physics, and earth space science, including basic concepts and laboratory techniques.			

Reviewer's Recommended Rating for Life Sciences for Grades 7-12 Program Approval based on a review of both Ed 610.02 Professional Education and Ed 612.25:

REVIEWER INFORMATION:

PRINT NAME:_____

SIGNATURE: _____ **DATE:** _____