**MSE PhD Dissertation and Defense of Dissertation Examination SACS Assessment Rubric**

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| **Outcome / Assessment** | **(1) Does Not Meet Expectations** | **(2) Meets Expectations** | **(3) Exceeds Expectations** |
| **(1) Effectively analyze the literature to identify and evaluate important and related scholarly activities** | **Serious problems** exist, including the following: (1) fails to cite important literature and prior research in the topical area; and (2) if asked, demonstrates **little knowledge** of scholarly activities related to the subject matter. | Performs an **adequate** literature survey including: (1) cites some of the most important prior research regarding the topical area; and (2) if asked, demonstrates **sufficient knowledge** of scholarly activities related to the subject matter. | Performs a **comprehensive** literature survey including: (1) cites all of the most important prior research regarding the topical area; and (2) if asked, demonstrates **exceptional knowledge** of scholarly activities related to the subject matter. |
| **(2) Effectively plan and conduct independent original research in materials science and engineering** | **Serious problems** exist, including any or all of the following: (1) research objectives are poorly defined; (2) research hypotheses are incoherent or flawed; (3) originality, creativity and insight are limited; and (4) expansion upon previous research is **limited**. | Demonstrates **satisfactory** ability to conduct original research, including: (1) research objectives are fairly clear; (2) research hypotheses are purposeful and sound; (3) originality, creativity and insight are all apparent; and (4) expansion upon previous research is **adequate**. | Demonstrates **exceptional** ability to conduct original research, including: (1) research objectives are unassailable; (2) research hypotheses are compelling and precisely crafted; (3) originality, creativity and insight are all exceptional; and (4) expansion upon previous research is evident and **exemplary**. |
| **(3) Clearly communicate scholarly research and results through the *Dissertation* (and conference papers or journal articles)** | **Serious problems** exist, including any or all of the following: (1) numerous grammatical or spelling errors; (2) poor organization; and (3) **poor documentation** (citations, references, etc.). | **Adequate writing**, including the following: (1) few grammatical and spelling errors; (2) logical organization; and (3) **adequate documentation** (citations, references, etc.). | **Excellent writing**, including the following: (1) no grammatical and/or spelling errors; (2) reasoned and thoughtful organization; and (3) **good documentation** (citations, references, etc.). |
| **(4) Clearly communicate scholarly research and results though an oral presentation (specifically, the *Defense of Dissertation Examination*)** | **Serious problems** exist, including any or all of the following: (1) delivers an unsatisfactory presentation on the topic; (2) fails to provide adequate coverage of the topic; and (3) if asked, provides **insufficient insight** regarding the subject matter. | Demonstrates **satisfactory** communication skills, including: (1) delivers a satisfactory presentation on the topic; (2) provides adequate coverage of the topic; and (3) if asked, provides **sufficient insight** regarding the subject matter. | Demonstrates **exceptional** communication skills, including: (1) delivers an excellent presentation on the topic; (2) provides good coverage of the topic; and (3) if asked, provides **comprehensive insight** regarding the subject matter. |
| **(5) Critically think and create innovative solutions to engineering or scientific problems** | **Serious problems** exist, including the following: (1) demonstrates little knowledge of fundamental materials science concepts; and (2) demonstrates **little understanding** of the roles of either experiments or theory in the topical area. | Demonstrates **adequate** critical thinking, including: (1) an understanding of basic, fundamental materials science concepts; and (2) **sufficient insight** into the roles of experiment and theory in the topical area. | Demonstrates **excellent** critical thinking, including: (1) a mastery basic, fundamental materials science concepts; and (2) **impressive understanding** regarding the roles of experiment and theory in the topical area. |