

Materials Engineering and Science Program Assessment Plan

OUTCOMES ASSESSMENT

All MES students will be evaluated over the four program Outcomes via a program rubric. The Major Professor, in conjunction with the faculty participating on the capstone (dissertation, thesis, non-thesis project) presentation/document will score the rubric and return it to the MES Program Coordinator.

STUDENT SATISFACTION SURVEY

All MES students will complete a satisfaction survey upon completion of their capstone project. The Program Coordinator will conduct the survey.

MESAC PROGRAM REVIEW

The Materials Engineering and Science Advisory Council will review the Outcomes rubrics and Student Satisfaction Surveys annually (at the end of the academic year) and use the review process to guide program modifications, if necessary. The assessment data will also be used for general program planning and utilized in the annual budget hearing requests.

Materials Engineering and Science Student Outcomes

At completion of the degree program, students in Materials Engineering and Science will have:

1. an ability to apply general technical knowledge to solve problems related to materials engineering and science and conduct research
2. an ability to apply core Materials Engineering and Science discipline knowledge to analyze and interpret data
3. an ability to communicate effectively in a technical manner (both written and oral)
4. an ability to conduct themselves in a professional manner consistent with a graduate level

Materials Engineering and Science Program Exit Survey

Congratulations on your upcoming graduation from the South Dakota School of Mines and Technology. All MES graduate students are expected to complete this survey as part of completing their degree. Your honest and thoughtful responses to this survey will help the MES program evaluate and improve our program.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
COURSES					
The faculty teaching courses in my program were effective teachers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Courses in my major were academic challenging.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The intellectual caliber of students in my graduate program was high.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GRADUATE ADVISOR					
The information provided to me by my advisor regarding my course of study was accurate and helpful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My advisor gave helpful feedback on my master's thesis, project, or creative activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My advisor provided adequate Opportunities for research or creative activity outside of my thesis or major project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GRADUATE OFFICE SERVICES AND PERSONNEL					
Requests for information from the Graduate School Office were handled in a timely manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Strongly
Disagree**

Disagree

Agree

**Strongly
Agree**

**Not
Applicable**

Graduate School staff members were willing to help me resolve problems.

The Graduate School staff was effective in explaining procedures for me to follow to complete requirements for my degree.

**LIBRARY AND TECHNOLOGY
SERVICES**

Library resources were adequate to support my class and research needs.

Computer and wireless access was adequate for my class and research needs.

*Rubric for M.E.S. Dissertation/Thesis/Project Defense; Student Name _____ Date _____

Check Which Applies: Ph.D. Dissertation M.S. Thesis M.S. Project

Outcome (check box below)	Highly competent	Competent	Not competent
General Technical Knowledge HC <input type="checkbox"/> 5 C <input type="checkbox"/> 3 NC <input type="checkbox"/> 1	Exhibited highly effective use of critical thinking skills; incorporated content knowledge to identify new solutions/ideas relevant to professional practice; used content appropriate to situation and audience; cited information sources accurately	Demonstrated critical thinking skills; incorporated content knowledge to identify new solutions/ideas relevant to professional practice; made connection between support and main points	Displayed poor or ineffective use of basic critical thinking skills; failed to incorporate content knowledge in the development of solutions to professional problems; provided little support for main ideas
Application to Discipline/Conduct Research HC <input type="checkbox"/> 5 C <input type="checkbox"/> 3 NC <input type="checkbox"/> 1	Demonstrated original thinking; applied scientific theory and knowledge from MES Core Courses (MES 601/602/603/604)* to analyze, synthesize, and evaluate data and conduct research	Evidenced some application of scientific theory and knowledge from MES Core Courses (MES 601/602/603/604)* to analyze, synthesize, and evaluate data and conduct research	Displayed little to no use of appropriate application of scientific theory and/or knowledge from MES Core Courses (MES 601/602/603/604)* to analyze, synthesize, and evaluate data and conduct research
Technical Communications (this criterion applies to both oral and written components) HC <input type="checkbox"/> 5 C <input type="checkbox"/> 3 NC <input type="checkbox"/> 1	Used professional terminology; evidenced precise and vivid language; defined unfamiliar terms; varied sentence structure consistently	Produced some varied sentence structure and word choice; used professional terminology without prompting; displayed appropriate standards of usage for situation and audience	Displayed inadequate standards of usage; limited variance in sentence structure, professional word choice, and professional terminology not used (even when prompted); divulged slang words or other inappropriate language for situation and audience
General Delivery/Professionalism HC <input type="checkbox"/> 5 C <input type="checkbox"/> 3 NC <input type="checkbox"/> 1	Dressed professionally, and was well groomed; displayed consistent eye contact and confidence consistent with MES 790/890* training	Appeared in adequate and appropriate dress and grooming; displayed some evidence of confidence and appropriate eye contact consistent with MES 790/890* training	Dressed inappropriately; displayed cleanliness or grooming issues; did not maintain eye contact; seemed to lack confidence consistent with MES 790/890* training

TOTAL RUBRIC SCORE _____

COMMENTS: _____

- MES 601 Fundamentals of Materials Engineering
- MES 602 Materials Characterization: Methods and Applications
- MES 603 Condensed Matter Physics
- MES 604 Chemistry of Materials
- MES 790/890 Seminar

of Student External Presentations? _____

of Student Publications? _____

*This form is to be completed by the Major Professor, in collaboration with the Graduate Committee, and returned to the Materials Engineering and Science Program Coordinator. This form is to be used for program assessment only.