Assessment Handout

UMD goals in *italics*.

1. Knowledge and Scholarly Formation

1. Demonstrate knowledge of core disciplines and specialization in a field of concentration

1A. Graduates will demonstrate proficiency in one core specialization discipline of choice (Analytical/Environmental Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, or Physical/Computational Chemistry) [percent students with GPA above 3.0 and above 3.5 at coursework completion in their area of specialization as defined in the student’s degree program]

1B. Graduates will be able to demonstrate proficiency in the broader field of chemistry outside of their area of specialization. [percent students with overall GPA above 3.0 and above 3.5 at coursework completion]

1C. Students will be able to critically read and apply scientific information. [research proposal, Graduate Seminar, thesis by anonymized questionnaires by the committee]

2. Research and Methodological Skills Relevant to Field

2. Students will demonstrate proficiency in the design and practice of research.

2A. Students will demonstrate proficiency in the design of research, using appropriate methodology and experimental techniques to address a question or set of questions in chemistry [anonymized questionnaires by the committee]

2B. Students will complete an original research project and write an original thesis approved by their committee. [anonymized questionnaires by the committee]

3. Communication Skills

3. Students will demonstrate proficiency in scientific oral and written communication.

3A. Students will effectively communicate their research orally. [short questionnaire at 2nd year seminar and thesis defense filled out by the thesis committee]

3B. Students will effectively communicate their research in written form. [short questionnaire about the thesis filled out by the thesis committee]
3C. Students will demonstrate effective communication of scientific concepts to non-specialists. [short evaluation at 2nd year seminar filled out by audience, and/or TA evaluations]

4. Leadership and Collaborative Skills

4. Students will demonstrate proficiency in leading a project, working collaboratively, and taking initiative in the laboratory.

4A. Students will demonstrate proficiency in project planning and goal-setting. [project proposal evaluated by thesis committee, progress reports evaluated by advisor]

4B. Students will have demonstrated individual initiative sufficient for successful completion of research project. [thesis defense evaluated by thesis committee short anonymized questionnaire]

4C. Students will demonstrate proficiency in carrying out original research working with a mentor and mentoring other students in research. [thesis committee will complete a short anonymized questionnaire]

5. Cultural Competence and Global Context Formation of the Field

5. Students will be competent in cultural and international aspects of research.

5A. Students will demonstrate knowledge of cultural competence [completion of the two-part research ethics workshop that includes diversity and inclusion; short written examination at the end of the workshop]

5B. Students will have used international research as reference for their thesis project [committee will complete a short, anonymized questionnaire]