**Instructions:** Students complete the Self-Achievement and Skills Matrix on Page 2 independently. Research advisors complete the Student Achievement and Skills Matrix on Page 3 and set a meeting time to review the documents with the student.

Each item in the Skills Matrix is associated with one (or more) of the Learning Outcomes, listed below. Research advisors are to provide feedback in terms of the learning objectives in the *Notes* sections. In cases where the research advisor indicates “failed to meet expectations” or “barely met expectations,” remediation plans are to be included in the notes.

Below is a list of the learning objectives and the numbers used to reference them in the Skills Matrix:

**Student Learning Outcomes**

1. Independently learn new chemical principles and techniques beyond those typical of undergraduate academic training.
2. Identify original and worthwhile chemical problems stated as research questions and hypotheses.
3. Design and execute experiments as part of independent chemistry research investigations.
4. Critically evaluate their data, results, and conclusions and those of others in the chemistry community.
5. Identify potential problems in the responsible conduct of research and identify strategies for managing those problems.
6. Articulate standards for laboratory safety in chemical research, assess potential hazards they may encounter in novel chemistry research, and develop effective strategies to mitigate those risks.
7. Communicate chemical knowledge, new models, and research results both orally and in writing for both technical and nontechnical audiences.

**To be completed by the Graduate Student:**

|  |
| --- |
| **Self-achievement** in the past year based on goals set during previous annual review |
|  |
| failed to meet expectations | barely met expectations | met expectations | exceededexpectations | greatly exceededexpectations |
| Notes:  |
| **Skills Matrix** (*completed by student*) | **0** (poor) | **1** | **2** | **3** | **4** | **5** | **6** | **7** (excellent) |
| Creativity (2) |  |  |  |  |  |  |  |  |
| Critical Thinking (1, 2, 4, 5) |  |  |  |  |  |  |  |  |
| Time Management and Productivity (1, 4, 7) |  |  |  |  |  |  |  |  |
| Experimental Design and Competence (1, 3, 6) |  |  |  |  |  |  |  |  |
| Knowledge of Research Area (1, 7) |  |  |  |  |  |  |  |  |
| Knowledge of Broader Field of Study (1, 4) |  |  |  |  |  |  |  |  |
| Effective use of Resources (3) |  |  |  |  |  |  |  |  |
| Notes: |

**To be completed by the Research Advisor:**

|  |
| --- |
| **Student achievement** in the past year based on goals set in previous annual review |
| failed to meet expectations | barely met expectations | met expectations | exceededexpectations | greatly exceededexpectations |
| Notes:  |
| **Skills Matrix** (*completed by advisor*) | **0** (poor) | **1** | **2** | **3** | **4** | **5** | **6** | **7** (excellent) |
| Creativity (2) |  |  |  |  |  |  |  |  |
| Critical Thinking (1, 2, 4, 5) |  |  |  |  |  |  |  |  |
| Time Management and Productivity (1, 4, 7) |  |  |  |  |  |  |  |  |
| Experimental Design and Competence (1, 3, 6) |  |  |  |  |  |  |  |  |
| Knowledge of Research Area (1, 7) |  |  |  |  |  |  |  |  |
| Knowledge of Broader Field of Study (1, 4) |  |  |  |  |  |  |  |  |
| Effective use of Resources (3) |  |  |  |  |  |  |  |  |
| Notes: |

We certify that we have reviewed this evaluation together. We agree with the marked assessments and will work together to build upon strengths and remedy areas of weakness.

Student’s Signature

Advisor’s Signature

Date

Date