

McKendree University
Assessment 2.1
Learning Outcome: INQUIRY & PROBLEM SOLVING
Students will develop and apply analytical, critical thinking, and problem-solving skills.

Objective 1: Students will further develop and apply analytical, critical thinking, and problem-solving skills.

Assessment Instrument: Inquiry and Problem Solving rubric*
Participants: Students enrolled in general education courses fulfilling the mathematical reasoning requirement
Data Collected: Every semester
Data Aggregated: By academic year
Instrument Scale: 1 = Novice, 2 = Basic, 3 = Proficient, 4 = Advanced
Target Goal: Mean score of 2.5 or higher
Assessment Results:

Indicator	2021-2022	
	n	M
Interpreting	328	3.23
Creating	255	3.36
Calculating	150	2.96
Abstracting	262	2.95
Analyzing	274	3.41
Communicating	273	3.67
Total	330	3.27

*Prior to the 2021-2022 adoption of the Inquiry and Problem Solving Rubric, this objective was split two objectives measured by the Quantitative Literacy and Computer Literacy and Competence Rubrics. The outcomes from these rubrics can be found in the Appendix at the end of this report.

Objective 2: Students will use the scientific method to evaluate the validity of information.

Assessment Instrument: Science and Nature rubric (Revised: 2019)
Participants: Students enrolled in general education courses fulfilling the science and nature requirement
Data Collected: Every semester
Data Aggregated: By academic year
Instrument Scale: 1 = Novice, 2 = Basic, 3 = Proficient, 4 = Advanced
Target Goal: Mean score of 2.00 or higher in lower-level courses and 3.00 or higher in upper-level courses
Assessment Results:

Indicator	2019-2020						2020-2021	2021-2022					
	Lower Division		Upper Division		Total			Lower Division		Upper Division		Total	
	n	M	n	M	n	M		n	M	n	M	n	M
Distinguish science from other disciplines	74	3.74	0	N/A	74	3.74	System improvements resulted in a lack of data being obtained.	41	3.54	0	N/A	41	3.54
Apply the process of scientific inquiry	193	2.87	0	N/A	193	2.87		154	3.56	0	N/A	154	3.56
Accurately communicate (oral/written) scientific theories, concepts, and terminology	158	2.86	0	N/A	158	2.86		105	2.89	0	N/A	105	2.89
Discriminate between scientific and societal controversy	74	3.49	0	N/A	74	3.49		101	3.35	0	N/A	101	3.35
Total	312	2.83	0	N/A	312	2.83		335	3.35	0	N/A	335	3.35

Significant Changes

- 2016-2017: Developed and implemented Quantitative Literacy, Computer Literacy and Competency, and Science and Nature rubrics.
- 2020-2021: Revised the Inquiry and Problem Solving General Education rubrics.
- 2021-2022: Integrated the Inquiry and Problem Solving General Education rubrics into Brightspace D2L.

Appendix: Pre-2021 Quantitative Literacy and Computer Literacy and Competency Rubric Results

Objective 1: Students will use mathematical reasoning to solve problems.

Assessment Instrument: Quantitative Literacy rubric
Participants: Students enrolled in general education courses fulfilling the mathematical reasoning requirement
Data Collected: Every semester
Data Aggregated: By academic year
Instrument Scale: 1 = Novice, 2 = Basic, 3 = Proficient, 4 = Advanced
Target Goal: Mean score of 2.00 or higher
Assessment Results:

	2017 - 2018		2018 - 2019		2019 - 2020		2020 - 2021	
Indicator	n	M	n	M	n	M	n	M
Interpretation	71	3.21	85	3.21	63	3.06	System improvements resulted in lack of data being obtained.	
Representation	36	3.11	59	3.17	35	2.74		
Calculation	73	3.30	93	3.03	63	3.24		
Communication	34	2.97	51	3.06	35	2.80		
Total	74	3.23	93	3.20	63	3.17		

Objective 2: Students will use computers to solve problems.

Assessment Instrument: Computer Literacy and Competency rubric
Participants: Students enrolled in general education courses fulfilling the computer competency requirement
Data Collected: Every semester
Data Aggregated: By academic year
Instrument Scale: 1 = Beginning, 2 = Low Intermediate, 3 = High Intermediate, 4 = Advanced
Target Goal: Mean score of 2.00 or higher
Assessment Results:

	2016 - 2017		2017 - 2018		2018 - 2019		2019 - 2020		2020 - 2021	
Indicator	n	M	n	M	n	M	n	M	n	M
Connecting	208	3.38	251	3.43	160	3.38	250	3.29	System improvements resulted in lack of data being obtained.	
Creating	207	3.48	260	3.48	160	3.38	581	3.71		
Abstracting	179	2.83	222	2.98	153	3.12	209	2.79		
Analyzing	204	3.05	203	2.97	159	3.10	542	3.16		
Communicating	201	3.01	249	3.53	161	3.54	280	3.38		
Total	223	3.16	261	3.28	307	3.40	1024	3.44		