

## Fall 2017–Fall 2018 General Education Academic Assessment Report February 19, 2019

#### Academic Assessment Committee (2018-2019 AY)

Faculty Elected At-Large: Lisa Borden-King, chair Kathy Hintz

Faculty Elected by College: Andrea Donovan, College of Arts and Sciences Mark Singer, College of Arts and Sciences Nicole Wald, College of Business Kayla Fisher, College of Education and Health Sciences

Student: Noah Grant

Vice President of Academic Affairs (non-voting member): Laurie Geller

Director of Academic Assessment (non-member): Michael Brooks

Representative from the General Education Committee (non-voting member): Warren Gamas Dan Ringrose

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## Fall 2017–Fall 2018 General Education Academic Assessment Report Executive Summary

General Education at Minot State University is designed to ensure students learn a common set of academic skills and capacities, display personal and social responsibility, and understand interconnecting perspectives shaping domestic and global issues. The overarching goal is to impart and develop skills that allow graduates to flourish and make life-long contributions to their professional, civic, and social world regardless of discipline, major, or career path. Three broad developmental categories—critical capacities and skills, personal and social responsibility, and interconnecting perspectives—each with specific objectives, constitute general education at MSU. To ensure that all aspects are included in the undergraduate experience, students must take courses or engage in experiences from each category and its sub-categories.

#### Process

Each semester faculty evaluate student work, assess the work with a common rubric, and enter data into a database. To ease the assessment burden, the Academic Assessment Committee distributed the assessment of courses over a three-semester rotation. The first rotation included Fall, 2017 (CCS1, CCS4, PSR1, IP1, IP2); Spring, 2018 (CCS2, CCS5, PSR2, IP1, IP2); Fall, 2018 (CCS3, CCS6, PSR3, IP1, IP2). Note, IP1 and IP2 are distributed over the three semesters. Initial data were presented at Assessment Day in spring, 2018. This report includes data from all three semesters.

## Results

In CCS1, CCS2, CCS3, CCS5, CCS6, and PSR2, and PSR3, seniors had significantly higher performance than freshmen in all rubric categories.

In CCS4, Quantitative Literacy, seniors did not perform significantly higher on all criteria and upper division students did not perform significantly higher than lower-division students.

In PSR1, Relationships and Value Systems, seniors did not perform significantly higher though upper division students had significantly higher performance than lower division on one sub-category. Overall PSR1 scores are among the highest and all student groups had a mean above sufficient (3).

In IP1, Knowledge of Interconnecting Perspectives, seniors did not perform significantly higher than freshmen. In two categories, (knowledge of cultural worldview frameworks and cultural self-awareness), juniors performed higher than all other classifications. Additionally, in the knowledge of cultural worldviews category, freshmen performed better than sophomores.

In IP2, Interconnecting Perspectives – Experience, seniors and upper division students did not perform significantly better than freshmen and lower division students. The sample size for freshman and sophomore students is quite small (4 and 9, respectively), and all four freshmen earned a rating of advanced (4).

## Recommendations

The Academic Assessment Committee recommends that the faculty who teach courses in CCS4 and IP1 convene to address questions raised in this report. Questions for both groups to consider include:

- Is there an issue with inter-rater reliability?
- Is there a mismatch between the assignment(s) and rubric?
- Is there a mismatch between course(s) and general education category?
- Are students being given ratings of insufficient (1) when they do not complete/participate in the assignments?
- Are there other factors that might be contributing to the lack of a significant difference between the performance of seniors and freshmen in the general education category?

To view the full report, please see: <u>https://www.minotstateu.edu/ge/</u>

# Section A: Background

General Education at Minot State University is designed to ensure students learn a common set of *academic skills and capacities*, display *personal and social responsibility*, and understand *interconnecting perspectives* shaping domestic and global issues. The overarching goal is to impart and develop skills that allow graduates to flourish and make life-long contributions to their professional, civic, and social world regardless of discipline, major, or career path. Three broad developmental categories—critical capacities and skills, personal and social responsibility, and interconnecting perspectives—each with specific objectives, constitute general education at Minot State. To ensure that all aspects are included in the undergraduate experience, students must take courses or engage in experiences from each area.

Critical Capacities and Skills (CCS) requires a student to demonstrate the capacity to think critically, write, collaborate, communicate, solve problems, and to deploy skills related to information and quantitative literacy. The sub-categories include: CCS1 Problem Solving, CCS2 Information Literacy, CCS3 Critical Reading, CCS4 Quantitative Literacy, CCS5 Oral/Written Communications, and CCS6 Collaboration.

Personal and Social Responsibility (PSR) requires a student to develop an understanding and commitment to individual well-being and to civic life and community needs. The sub-categories include: PSR1 Relationships and Value Systems, PSR2 Responding to Community Needs, and PSR3 Individual Well-Being.

Interconnecting Perspectives (IP) requires a student to study, reflect, and apply the understanding of diverse global and domestic perspectives both in the classroom and in a global setting. The sub-categories include: IP1 Knowledge and IP2 Experience.

### Requirements

Students fulfill developmental content requirements by taking courses approved for each of the specific CCS, PSR, and IP areas (11 total) listed above. Students fulfill many of these requirements using courses traditionally taken in the first or second year, but because both lower and upper division courses are included, in practice, meeting all of these requirements can be spread across the entire undergraduate career and can include courses in a student's major. The learning outcomes of each of the 11 developmental areas are assessed using rubrics adapted from AAC&U's LEAP rubrics.

Students must also take required core and foundational courses in academic areas distributed across oral and written communication (9 cr.), mathematics (4 cr.), the arts and humanities (6 cr.), the physical and natural world (i.e., lab science) (8 cr.), history (3 cr.), the social sciences (6 cr.), and a first-year seminar (2-3 cr.). These core and foundational courses satisfy learning outcomes within CCS, PSR, IP developmental content requirements. As such, the broad umbrella of developmental content also covers Minot State's foundational courses and core requirements. In addition to ensuring a well-rounded foundation in disciplinary content for every graduate, foundational content also facilitates transfer within the North Dakota University System (NDUS) by meeting the state's GERTA (General Education Requirement Transfer Agreement) requirements.

Foundational Content (FC) includes studies in the arts and humanities (FC1 6 cr.), the physical and natural world (FC2 8 cr.), history (FC3 3 cr.), and the social sciences (FC3 6 cr.).

- FC1 Humanities Students will demonstrate knowledge of human cultures and cultural products—the arts and letters—and of how to study, compare, and critique diverse cultural perspectives and aesthetics. Students will also have the opportunity to produce their own cultural artifacts.
- FC2 Lab Science Students will demonstrate knowledge of the physical and natural world and how to produce and apply that knowledge in a variety of settings.
- FC3 History and Social Sciences Students will demonstrate knowledge of common and diverse historical experiences and of how to apply historical synthesis to inform decisions and understanding of the contemporary world. Courses from the social sciences in particular should emphasize scientific analysis from the everyday world and should analyze data and problems as they relate to the contemporary world. Courses from the social sciences in particular should emphasize scientific analysis from the social sciences in particular should emphasis from the everyday world and should analyze data and problems as they relate to the contemporary world and should analyze data and problems as a should emphasis from the everyday world and should analyze data and problems as they relate to the contemporary world.

Required Core includes oral and written communication (ENGL 110, ENGL 120, COMM 110), mathematics, and first-year seminar (UNIV 110).

## Section B: Methods and Limitations

The MSU Academic Assessment Committee created an assessment system designed to 1) collect data, and 2) use said data to evaluate the extent to which students acquire the skills, capacities, experiences, and perspectives specified in each major CCS, PSR, and IP area. To accomplish these goals, departments of participating courses identified an assignment or piece of evidence in the course that can be assessed using a rubric designed for a specific developmental sub-category and its learning outcomes. For example, a literature course that satisfies CCS3 (Critical Reading) might identify a writing assignment as the appropriate point of evaluation. The instructor applies the rubric, adapted from <u>AAC&U's LEAP rubrics</u>, to each paper and submits the results to a master database.

Over the course of this initial Fall 2017 to Fall 2018 assessment rotation, the assessment committee has collected substantial amounts of data indicating student performance on the learning outcomes of each of the 11 areas. This data collection allowed for regular cycles of analysis, campus discussion, and improvement. This system is designed to help MSU faculty see broad trends in the effectiveness of the general education model and to adjust for improvement. Rubrics are made available through several outlets, including the course applications for general education, the assessment surveys, and in the rubric listing.

Moreover, as noted above, developmental content areas are assessed on a rotating schedule. All areas are assessed every three semesters with approximately 1/3 of IP1 and IP2 courses assessed each semester. The first rotation was initiated in Fall 2017 and ended in Fall 2018. The specifics of the rotation are as follows:

- Fall 2017 CCS1, CCS4, PSR1, IP1, IP2
- Spring 2018 CCS2, CCS5, PSR2, IP1, IP2
- Fall 2018 CCS3, CCS6, PSR3, IP1, IP2

Once data were submitted, the raw data were analyzed using *t*-tests. The Null hypothesis for these *t*-tests was, mean of seniors = mean of freshmen, and the alternative hypothesis was, mean of seniors > mean of freshmen. For upper-division students (juniors and seniors) and lower-division students (freshmen and sophomores) the null hypothesis was, mean of upper = mean of lower, and the alternative hypothesis was, mean of upper > mean of lower.

#### Limitations:

- The data examined in this report are based only on one cycle of data from all 11 developmental content sub-categories.
- There is evidence of minor data entry issues.
- A lack of consistency regarding how to report data for a student who did not complete the assessed assignment may be present. While no empirical evidence is available to confirm this issue, we would expect blank or empty entries to be present that were not observed at the expected frequency.
- Now that one cycle of data has been collected, faculty may want to look at data refinement. Data refinement would ensure a common context to increase the awareness and understanding of the data and decrease data variability and redundancy. (See recommendations section for additional information on this latter item.)

## **Section C: Assessment Results**

For all developmental content sub-categories, a *t*-test was run comparing freshman to seniors. A *t*-test was run for each item on a rubric not for the overall rubric. Both the *t*-value and *p*-value are reported for statistically significant tests (i.e., *p*-value less than 0.05).

## Critical Capacities and Skills (CCS) 1: Problem Solving

Surveyed Fall 2017

Problem solving requires students to demonstrate the ability to raise vital questions and problems, formulating them clearly and precisely. To show this, students will demonstrate:

- 1. the ability to state a problem/question.
- 2. the ability to determine solutions associated with the problem/question.
- 3. the ability to evaluate evidence associated with the solutions.
- 4. the ability to select and defend the best solution for the problem/question.

For more information and to view the CCS1 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ccs\_1.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

CCS1 Assessment Results 23 courses assessed

Year in school	п		blem ement	Propose multiple	and test solutions		of evidence le solutions	Defend p solu	-
		$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S
Freshman	170	3.19	0.91	3.11	0.91	2.82	0.83	2.85	0.90
Sophomore	183	3.15	0.89	3.07	0.88	2.90	0.88	2.90	0.90
Junior	121	3.32	0.80	3.13	0.80	2.95	0.87	3.01	0.91
Senior	150	3.24	0.88	3.10	1.01	3.04	0.93	3.11	0.94
Total	624	3.22	0.88	3.10	0.91	2.92	0.88	2.96	0.92





Seniors had significantly higher ratings than freshmen on "Evaluation of evidence and possible solutions" (t = 2.30, p = 0.011) and "Defend proposed solution" (t = 2.53, p = 0.006).



Upper-division students had significantly higher ratings than lower-division on "Evaluation of evidence and possible solutions" (t = 1.94, p = 0.026) and "Defend proposed solution (t = 2.54, p = 0.006).

#### **Critical Capacities and Skills 2: Information Literacy**

Surveyed Spring 2018

Information literacy requires students to demonstrate the ability to locate, evaluate, select and assess relevant information, use abstract ideas to interpret information effectively, and come to well-reasoned conclusions and solutions. Students will demonstrate:

1. the ability to determine the nature and extent of information needed.

- 2. the ability to access needed information effectively and efficiently.
- 3. the capacity to evaluate information and its sources critically.

4. individually, or as a member of a group, the ability to use information effectively in order to accomplish a planned objective.

5. the ethical and legal use of information.

For more information and to view the CCS2 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ccs\_2.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

CCS2 Assessment Results

13 courses assessed

Year in school	n	Deterr inform need	ation	Acce inform		Critically informat sour	ion and	Use infor effect			rmation nd legally
		$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S
Freshman	163	2.56	0.94	2.47	0.95	2.49	0.94	2.56	0.98	2.70	0.91
Sophomore	188	2.82	0.90	2.77	0.97	2.74	0.89	2.78	0.92	2.98	0.89
Junior	97	3.32	0.77	3.27	0.85	3.12	0.88	3.03	0.95	3.21	0.82
Senior	75	3.27	0.83	3.35	0.82	3.25	0.87	3.12	0.96	3.38	0.84
Total	523	2.90	0.93	2.85	0.98	2.81	0.94	2.81	0.97	2.99	0.91





Seniors had significantly higher ratings than freshmen on all criteria: "Determine information needed," t = 5.81, p < 0.001; "Access information," t = 7.27, p < 0.001; "Critically evaluate," t = 6.13, p < 0.001; "Use information effectively," t = 4.18, p < 0.001; "Use information ethically and legally," t = 5.62, p < 0.001.



Upper-division students had significantly higher ratings than lower-division on all criteria: "Determine information needed," t = 7.61, p < 0.001; "Access information," t = 8.18, p < 0.001; "Critically evaluate," t = 6.70, p < 0.001; "Use information effectively," t = 4.42, p < 0.001; "Use information ethically and legally," t = 5.37, p < 0.001.

#### **Critical Capacities and Skills 3: Critical Reading**

Surveyed Fall 2018

Critical reading requires students to demonstrate the ability to think open-mindedly within alternative systems of thought, recognizing and assessing their assumptions, implications, and practical consequences. Students will demonstrate:

1. the ability to recognize possible implications of a text beyond the author's overt message.

2. the capacity to evaluate a text according to its scholarly contributions and consequences.

3. the ability to engage in reading as part of a continuing dialogue within and beyond a discipline or community of readers.

4. the capacity to discuss texts, verbally and in written form, with an independent intellectual perspective.

For more information and to view the CCS3 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ccs\_3.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

CCS3 Assessment Results

20 courses assessed

Year in school	n	Contextualization		Interpr	etation	Academic discourse	
		$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S
Freshman	140	2.46	0.98	2.38	1.00	2.40	0.99
Sophomore	167	2.96	0.99	2.88	0.94	2.90	0.97
Junior	88	3.03	0.95	3.14	0.96	2.95	1.00
Senior	110	3.27	0.83	3.24	0.86	3.19	0.88
Total	505	2.90	0.99	2.86	1.00	2.83	1.00





Seniors had significantly higher ratings than freshmen on all criteria: "Contextualization," t = 7.11, p < 0.001; "Interpretation," t = 7.30, p < 0.001; "Academic discourse," t = 6.67, p < 0.001.



Upper-division students had significantly higher ratings than lower-division on all criteria: "Contextualization," t = 5.09, p < 0.001; "Interpretation," t = 6.30, p < 0.001; "Academic discourse," t = 4.69, p < 0.001.

#### **Critical Capacities and Skills 4: Quantitative Literacy**

Surveyed Fall 2017

Quantitative literacy requires students to demonstrate the ability to think open-mindedly within alternative systems of thought, recognizing and assessing their assumptions, implications, and practical consequences. Students will demonstrate:

1. the ability to analyze and interpret quantitative information.

2. the capacity to critically analyze the limitations and bias of quantitative information.

For more information and to view the CCS4 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ccs\_4.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

CCS4 Assessment Results 23 courses assessed

Year in school n		-	pret quantitative mation	Critically analyze limitations & bias of quantitative information		
		$\overline{x}$	S	$\overline{x}$	S	
Freshman	167	3.01	0.98	2.87	0.97	
Sophomore	200	3.02	0.89	2.86	0.93	
Junior	141	2.98	0.84	2.74	0.88	
Senior	163	3.10	0.87	2.94	0.91	
Total	671	3.03	0.90	2.86	0.92	





Senior students did not have significantly higher ratings than freshmen students on all criteria.



Upper-division students did not have significantly higher ratings than lower-division students on all criteria.

#### Critical Capacities and Skills 5: Oral/Written Communications

Surveyed Spring 2018

Oral/written communication requires students to demonstrate the ability to communicate effectively with others when figuring out solutions to complex problems. Students will demonstrate:

1. competent content development and organization.

2. the appropriate use of sources and evidence.

3. the use of syntax, grammar, and delivery appropriate for discipline and audience.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

CCS5 Assessment Results 15 courses assessed

Year in school	n	Targeting			Content development and organization		Sources and evidence		Syntax, grammar, and delivery	
		$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	
Freshman	214	3.14	0.86	3.02	0.87	2.86	0.94	2.87	0.88	
Sophomore	128	3.07	0.94	2.97	0.98	2.84	0.99	2.84	0.87	
Junior	52	3.21	1.04	2.94	1.06	2.81	1.17	2.81	1.02	
Senior	161	3.42	0.72	3.33	0.77	3.33	0.77	3.33	0.76	
Total	555	3.25	0.88	3.12	0.91	3.02	0.97	3.03	0.89	





Seniors had significantly higher ratings than freshmen on all criteria: "Targeting," t = 4.88, p < 0.001; "Content development and organization," t = 5.13, p < 0.001; "Sources and evidence," t = 6.66, p < 0.001; "Syntax, grammar, and delivery," t = 6.56, p < 0.001.



Upper-division students had significantly higher ratings than lower-division students on all criteria: "Targeting," t = 4.64, p < 0.001; "Content development and organization," t = 4.19, p < 0.001; "Sources and evidence," t = 5.33, p < 0.001; "Syntax, grammar, and delivery," t = 5.10, p < 0.001.

#### **Critical Capacities and Skills 6: Collaboration**

Surveyed Fall 2018

Collaboration requires students to demonstrate the ability to communicate effectively with others when figuring out solutions to complex problems. Students will demonstrate:

1. the ability to compromise and handle alternative viewpoints.

2. the ability to build consensus among group members.

3. the ability to identify group member strengths and utilize them appropriately.

For more information and to view the CCS6 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ccs\_6.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

#### CCS6 Assessment Results

13 courses assessed

Year in school	п	Consensus building		Compi	Compromise		Member assessment		Final product	
		x	S	$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	
Freshman	59	2.80	0.78	2.88	0.72	2.80	0.76	2.90	0.78	
Sophomore	74	3.15	0.77	3.23	0.67	3.05	0.77	3.26	0.64	
Junior	63	3.27	0.87	3.35	0.81	3.19	0.84	3.27	0.85	
Senior	98	3.51	0.60	3.48	0.66	3.45	0.61	3.61	0.55	
Total	294	3.22	0.78	3.27	0.74	3.16	0.77	3.31	0.74	





Seniors had significantly higher ratings than freshmen on all criteria: "Consensus building," t = 6.03, p < 0.001; "Compromise," t = 5.19, p < 0.001; "Member assessment," t = 5.59, p < 0.001; "Final product," t = 6.16, p < 0.001.



Upper-division students had significantly higher ratings than lower-division students on all criteria: "Consensus building," t = 4.75, p < 0.001; "Compromise," t = 4.20, p < 0.001; "Member assessment," t = 4.64, p < 0.001; "Final product," t = 4.55, p < 0.001.

#### Personal and Social Responsiblity 1: Relationships and Value Systems

Assessed Fall 2017

Relationships and value systems requires students recognize their relationships to communities and evaluate different value systems associated with community issues.

A. Relationships – Students will demonstrate the ability to recognize their relationships to communities. B. Value Systems – Students will demonstrate the ability to evaluate different value systems associated with community issues.

For more information and to view the PSR1 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/psr\_1.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

#### PSR1 Assessment Results 14 courses assessed

Year in school	n	Recognize relations	ships to communities	Evaluate different value systems associated with community issues		
		$\overline{x}$	S	$\overline{x}$	S	
Freshman	28	3.29	1.08	3.32	1.06	
Sophomore	74	3.18	0.78	3.22	0.80	
Junior	70	3.47	0.79	3.40	0.81	
Senior	51	3.47	0.76	3.43	0.78	
Total	223	3.35	0.83	3.34	0.83	





Senior students did not have significantly higher ratings than freshmen students on all criteria.



Upper-division students had significantly higher ratings than lower-division students on "Recognize relationships to communities" (t = 2.38, p < 0.009).

#### Personal and Social Responsiblity 2: Responding to Community Needs

Surveyed Spring 2018

Responding to community needs requires students respond to community needs by engaging in meaningful community activities. Students will demonstrate:

1. engagement in meaningful community activities.

For more information and to view the PSR2 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/psr\_2.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

PSR2 Assessment Results 18 courses assessed

Year in school	n	Respond to community needs			
		$\overline{x}$	S		
Freshman	164	2.96	164		
Sophomore	52	2.71	52		
Junior	31	3.24	31		
Senior	116	3.67	116		
Total	363	3.19	0.94		



Seniors had significantly higher ratings than freshmen (t = 7.58, p < 0.001).



Upper-division students had significantly higher ratings than lower-division students (t = 7.80, p < 0.001).

#### Personal and Social Responsibility 3: Individual Well-Being

Assessed Fall 2018

Individual well-being requires students exercise individual well-being by exploring and practicing healthy behaviors. Students will demonstrate:

1. The exploration and practice of healthy behaviors.

For more information and to view the PSR3 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/psr\_3.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

PSR3 Assessment Results 19 courses assessed

Year in school	п	Explore & practice healthy behaviors		
		$\overline{x}$	S	
Freshman	149	3.09	0.90	
Sophomore	123	3.27	0.82	
Junior	77	3.38	0.80	
Senior	97	3.55	0.78	
Total	446	3.29	0.85	



Seniors had significantly higher ratings than freshmen (t = 4.18, p < 0.001).



Upper-division students had significantly higher ratings than lower-division students (t = 4.18, p < 0.001).

#### **Interconnecting Perspectives 1: Knowledge**

Assessed Fall 2017–Fall 2018 (1/3 of courses assessed each semester)

Interconnecting perspectives: knowledge requires students demonstrate through coursework an understanding of diversity both globally and within the United States. The work product must serve to assess student knowledge of classifications of diverse groups and populations. In addition the product must serve to assess the student's knowledge of the characteristics of at least one diverse population or group within the global community. Students will demonstrate:

- 1. knowledge of cultural self-awareness;
- 2. knowledge of cultural worldview frameworks;
- 3. curiosity about other cultures.

For more information and to view the IP1 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ip\_1.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

#### **IP1** Assessment Results

15 courses assessed

Year in school	# of items assessed	Cultural self-	aral self-awareness Knowledge of cultural worldview frameworks			Cultural curiosity	
		$\overline{x}$	S	$\overline{x}$	S	$\overline{S}$	S
Freshman	53	3.00	0.88	3.08	0.85	3.00	0.98
Sophomore	124	3.08	0.84	2.92	0.88	2.85	0.96
Junior	135	3.15	0.93	3.10	0.94	3.06	0.99
Senior	75	3.07	0.83	3.12	0.90	3.01	0.88
Total	387	3.09	0.88	3.05	0.90	2.98	0.96





Senior students did not have significantly higher ratings than freshmen students on all criteria.



Upper-division students had significantly higher ratings that lower-division students on "Knowledge of cultural worldview frameworks" (t = 1.73, p = 0.042).

#### **Interconnecting Perspectives 2: Experience**

Assessed Fall 2017-Fall 2018 (1/3 of courses assessed each semester)

Interconnecting perspectives: experience requires students demonstrate through an applied experience an understanding of diversity both globally and within the United States. The work product must serve to assess students' understanding of diversity related to complex social issues, decisions and consequences. They should be able to draw upon and consider an increasingly diverse set of scientific, historical, cultural, and social perspectives to frame their arguments and should employ multiple ways of thinking about problems to both evaluate and respond to alternative viewpoints. Students will demonstrate:

1. knowledge of cultural self-awareness;

- 2. empathy and will recognize intellectual and emotional dimensions of more than one worldview;
- 3. openness in their interactions with other cultures.

For more information and to view the IP2 rubric, please see http://www.minotstateu.edu/ge/documents/ge\_app/ip\_2.pdf.

Assessments ratings are 4 (Advanced), 3 (Sufficient), 2 (Basic), 1 (Insufficient).

#### IP2 Assessment Results 18 courses assessed

Year in school	п	Cultural sel	f-awareness	Knowledge of cul frame		Cultural curiosity		
		$\overline{x}$	S	$\overline{x}$	S	$\overline{x}$	S	
Freshman	4	4.00	0.00	4.00	0.00	4.00	0.00	
Sophomore	9	3.22	0.67	3.33	0.50	3.33	0.50	
Junior	26	3.35	0.63	3.35	0.63	3.38	0.57	
Senior	162	3.17	0.93	3.31	0.84	3.31	0.83	
Total	201	3.21	0.88	3.33	0.80	3.34	0.78	





Because all the freshmen had the same score, the standard deviation of that group was 0. Thus, *t*-tests could not be run to compare freshmen and seniors.



Upper-division students did not have significantly higher ratings than lower-division students on all criteria.

# **Section D: Analysis**

Interestingly, our general overview of the first cycle of data indicates that in the CCS category, 18 out of 22 criteria show significantly higher performance for seniors than freshman. In the PSR category, 2 out of 4 criteria showed significantly higher performance for seniors than freshman. In the IP1 category, none of the four criteria showed significantly higher performance for seniors than freshman. IP2's results are impacted by the very small response rate in the lower division students. Further IP2 data collection was called for before analysis could be presented. For all the cases in which seniors showed significantly higher performance than freshman, results also indicated significantly higher performance for upper division students than lower division students. Overall 6 out of the 11 general education sub-categories showed significantly higher performance for seniors than freshman on all criteria. Now that the first cycle of data collection has been completed, further refinement of the data collection process is needed to ensure a common understanding of the data and to decrease data variability and redundancy.

In this section, each category is briefly addressed from A) the perspective of statistical significance; B) general thoughts regarding the multiple ways these data could be analyzed; and C) specific recommendations for specific sub-categories, namely, CCS4 and IP1. This section ends with general recommendations regarding methodology and possible points of action on CCS4 and IP1.

### **CCS1 – Problem Solving**

As noted in the results, section seniors had significantly higher ratings than freshmen on "Evaluation of evidence and possible solutions" (t = 2.30, p = 0.011) and "Defend proposed solution" (t = 2.53, p = 0.006). Upper-division students had significantly higher ratings than lower-division on "Evaluation of evidence and possible solutions" (t = 1.94, p = 0.026) and "Defend proposed solution (t = 2.54, p = 0.006). Additionally, the data indicate student performance on "evaluation of evidence and possible solutions" is the lowest average of the set. Consequently, while a significant difference exists between freshmen and senior performance on "evaluation of evidence and possible solutions," performance of MSU students in the aggregate sample is potentially below proficient, with only seniors performing above proficient with a mean performance score of 3.04.

Performance within each rubric item varies. Only rubric items "Evaluation of evidence and possible Solutions" and "Defend proposed solution" exhibit a pattern of classification performance increases. However, when sample data are in aggregate, it is these same two rubric items where sufficient performance is questionable. Thus, while seniors perform significantly higher than freshmen, and upper-division higher than lower-division, said performance does not compensate for lower performance by other student groups.

A possible question raised by this incongruity is to what extent it is meaningful for MSU to pursue performance targets, whether in aggregate or not, above sufficient for MSU students?

#### **CCS2 – Information Literacy**

As noted in the results, section seniors had significantly higher ratings than freshmen on all rubric criteria: "Determine information needed," t = 5.81, p < 0.001; "Access information," t = 7.27, p < 0.001; "Critically evaluate," t = 6.13, p < 0.001; "Use information effectively," t = 4.18, p < 0.001; "Use information ethically and legally," t = 5.62, p < 0.001. Upper-division students had significantly higher ratings than lower-division on all rubric criteria: "Determine information needed," t = 7.61, p < 0.001; "Access information," t = 8.18, p < 0.001; "Critically evaluate," t = 6.70, p < 0.001; "Use information effectively," t = 4.42, p < 0.001; "Use information ethically and legally," t = 5.37, p < 0.001. Consequently, CCS2 exhibits clear patterns of performance increases across student classification.

Besides "Determine information needed" seniors performed higher than all other groups, and juniors and seniors consistently performed above sufficient. Moreover, when in aggregate MSU students' performance decreases on all rubric items. The reason for such is seemingly the influence of freshmen and sophomore performance on overall performance.

A question raised by this result is to what extent CCS2 rubric items should be more aggressively applied in lower level courses? It may be the case (See Appendix 1) that equal distribution of courses is in place, but is equal emphasis? This may or may not be the case, and may not be a meaningful approach to further analyzing these data. A more meaningful approach toward improving freshmen and sophomore performance might be setting targets no more than one standard deviation of separation between groups. Or, a minimum performance average/mean of 2.5

for all student groups across all rubric items. The latter suggestion seems imminently possible as only freshmen on two items, "Access information" and "Critically evaluate information and sources" performed below said target.

## CCS3 - Critical Reading

As noted in the results, section seniors had significantly higher ratings than freshmen on all rubric criteria: "Contextualization," t = 7.11, p < 0.001; "Interpretation," t = 7.30, p < 0.001; "Academic discourse," t = 6.67, p < 0.001. Upper-division students had significantly higher ratings than lower-division on all rubric criteria: "Contextualization," t = 5.09, p < 0.001; "Interpretation," t = 6.30, p < 0.001; "Academic discourse," t = 4.69, p < 0.001. Consequently, CCS3 exhibits clear patterns of performance increases across student classification.

Points to note include, freshmen and sophomore performance is potentially below sufficient on all rubric items. More importantly, freshmen performance is lowest, across all general education categories and rubric items, on "Contextualization"  $\bar{x} = 2.46$  and "Interpretation"  $\bar{x} = 2.38$ . Juniors potentially perform below sufficient on academic discourse.

An item of discussion may be the relative similarity of rubric items. While it is certainly the case that contextualization, interpretation, and academic discourse can be analyzed in distinct ways while simultaneously being integrative, it may be, however, that novices do not necessarily perceive the differences so discretely, nor can they apply them in unified ways. A more fundamental question may be, to what extent do students understand requested task(s) via rubric language and its relationship to their ability to perform said task(s)? It is conceivable, given the information in Appendix 1, a connection between diminished occasion and diversity of learning opportunities at the beginning of a student's academic career influence learning development, and potentially stall development at the end. Though, the latter is a more tentative proposition than the former.

## CCS4 – Quantitative Literacy

As noted in the results, senior students did not perform significantly better than freshmen students on all criteria, neither did upper-division students perform significantly better than lower-division students on all rubric criteria. Moreover, concerning rubric item, "Critically analyze limitations and bias," it is potentially the case that no student group in this sample performed at or above sufficient. Concerning rubric item "analyze and interpret," performance gains between freshmen and sophomores and sophomores and juniors are flat, or even decrease.

Given the lack of statistical significance between freshmen and senior performance, the relative uniformity of performance across student groups, specifically freshmen to sophomore, and the degradation of performance from sophomore to junior on both rubric items, CCS4 is a sub-category the Academic Assessment Committee believes warrants more formal attention. This sub-category is one of two specifically designated for action. Consequently, the following questions are advanced as guides for solution and improvement development.

First, to what extent is there an issue with inter-rater reliability? Second, to what extent is there a mismatch between assignment and rubric? Third, to what extent is there a mismatch between course and general education category? Fourth, are students being given ratings of 1 when they do not complete or participate in the assignment? This question is informed directly by the raw data set. Fifth, are there demographic factors influencing data that need to be explored? Sixth, and more comprehensively, to what extent could other relevant lines of inquiry be associated with the lack of performance by seniors, especially regarding rubric item "Critically analyze limitations and bias" and MSU students in general?

## **CCS5 - Oral and Written Communication**

As noted in the results, seniors had significantly higher ratings than freshmen on all rubric criteria: "Targeting," t = 4.88, p < 0.001; "Content development and organization," t = 5.13, p < 0.001; "Sources and evidence," t = 6.66, p < 0.001; "Syntax, grammar, and delivery," t = 6.56, p < 0.001. Upper-division students had significantly higher ratings than lower-division on all rubric criteria: "Targeting," t = 4.64, p < 0.001; "Content development and organization," t = 4.19, p < 0.001; "Sources and evidence," t = 5.33, p < 0.001; "Syntax, grammar, and delivery," t = 5.10, p < 0.001. However, trends in the data suggest certain rubric items may warrant refinement.

For instance, considering rubric items two through four, freshmen performed better than all other categories besides seniors. While the performance gaps are small, and not tested for statistical significance, the data are still meaningful in that they convey a potential trend. One in which novice students, freshmen, perform better than practiced students, save for the most practiced student group, namely seniors. Additionally, a question regarding

what provokes the flat to downward trend in performance from rubric item one to rubric item four for all groups, excluding seniors, addresses not only a counterintuitive trend but potentially one of importance. Additionally, one could ask why is senior performance relatively flat, especially for rubric items two through four?

## **CCS6 – Collaboration**

As noted in the results, seniors had significantly higher ratings than freshmen on all rubric criteria: "Consensus building," t = 6.03, p < 0.001; "Compromise," t = 5.19, p < 0.001; "Member assessment," t = 5.59, p < 0.001; "Final product," t = 6.16, p < 0.001. Upper-division students had significantly higher ratings than lower-division on all rubric criteria: "Consensus building," t = 4.75, p < 0.001; "Compromise," t = 4.20, p < 0.001; "Member assessment," t = 4.64, p < 0.001; "Final product," t = 4.55, p < 0.001. Consequently, CCS6 exhibits clear patterns of performance increases across student classification, save for rubric criteria "Final product".

Among all general education sub-categories, CCS6 exhibits some of the most expected, and indeed valued, trends. Performance increase is consistently displayed across student classification and across rubric criteria. As noted above, concerning rubric item "Final product," performance flattens between sophomore and juniors, which is different from performance on all other rubric criteria. Yet, in the aggregate, it is "Final Product" that exhibits the greatest performance mean,  $\bar{x} = 3.31$ .

Consequently, with such seemingly uniform trends exhibiting interesting facets it may be helpful to mesh demographic data with genearl education performance data when disagregating the results. For instance, to what extent does first-time, full-time freshmen performance influence overall freshmen performance? Is the performance between the two groups statistically different? What is the influence of non-traditional students on performance? Given MSU's 60/40 split in terms of male and female student populations, which of these two groups performs better, or do the groups perform the same? What does MSU make of transfer student performance within the general education? While these questions are only a few of the possible pool of questions, they do illustrate how deomgraphics could inform action even within a category that is seemingly stable.

## **PSR1 – Relationships and Value Systems**

As noted in the results, senior students did not perform significantly better than freshmen students on all criteria. Upper-division students had significantly higher ratings than lower-division on "Recognize relationships to communities" (t = 2.38, p < 0.009). Moreover, PSR1 performance across student groups is among the highest in general education. All student classifications performed above sufficient. Consequently, this frames statistical significance between upper and lower-division students on rubric criteria "Recognize relationships to communities" in a slightly different light. The broad question is not why performance is lacking, but why MSU students perform more consistently sufficient in this category than others? More specific questions may need to address rigor, or at least at what level (target) do MSU faculty believe students should be performing? Given the nature of sufficient performance across all student groups, the notion of using this baseline data for calibration and consequently the setting of a minimum threshold of performance seems a live option.

Moreover, two items are of note. First, the freshmen sample size is less than 30 which does provoke larger standard deviations for both rubric criteria, a notable point in and of itself. Second, in terms of future comparisons with the current rotation data set, PSR1 was assessed in the fall semester of 2017, but will be assessed in the next rotation in spring semester 2019. It is obviously too late to adjust methodology in this particular instance; however, it may be an issue of methodological concern moving forward. For instance, it is conceivable that freshmen performance, especially first-time freshmen performance, would be markedly different on PSR1 when being assessed in their second semester instead of their first semester. The influence of "acclimatization" or even development in tenacity are potentially enough to render comparisons dissimilar. Consequently, to what extent does rotation of certain general education categories matter for longitudinal comparison of said general education categories?

## PSR2 - Responding to Community Needs

As noted in the results section, seniors had significantly higher ratings than freshmen (t = 7.58, p < 0.001). Upperdivision students had significantly higher ratings than lower-division (t = 7.80, p < 0.001). While freshmen performance is important, so is, and maybe even more so, the degradation of performance from freshmen to sophomore. Moreover, both freshmen and sophomores potentially perform at less than sufficient, whereas seniors perform at their highest level,  $\bar{x} = 3.67$ , out of all general education categories. A potential issue within the raw data, namely the existence of performance scores of 1 for freshmen and very few, if any, for seniors is an occasion for methodological improvement. Whether this phenomenon is widespread or localized just to freshmen, is an issue of methodology. Specifically, is this an issue of faculty addressing a non-participating or non-completing student? If so, what are faculty to do with non-participating or non-completing students? Is it best to simply mark performance as 1 for these students, which on this category's rubric is a performance score of "Insufficient," and consequently treat all scores of 1 for said students as outliers to be removed? Or, should such scores remain as part of the performance of the larger group? Or, simply instruct faculty to not report a performance score for non-participating or non-completing students?

## PSR3 - Individual Well-Being

As noted in the result section, Seniors had significantly higher ratings than freshmen (t = 4.18, p < 0.001). Upperdivision students had significantly higher ratings than lower-division (t = 4.18, p < 0.001). All student groups perform at better than sufficient levels. Consequently, there is a decided trend of increased performance from freshmen through seniors.

One should note the relative subjectivity of this general education category to other general education categories and its rubric criterion to other rubric criteria. This may help explain the level of performance exhibited by seniors. Additionally, this may be another category where demographic analysis provides deeper understanding of student performance.

### IP1 – Knowledge

As noted in the results, there seniors did not perform significantly better than freshmen. Upper-division students had significantly higher ratings that lower-division students on "Knowledge of cultural worldview frameworks" (t = 1.73, p = 0.042). The lack of significantly higher performance scores between freshmen and seniors in this category, coupled with juniors performing at higher levels on rubric criteria "Cultural self-awareness" and "Cultural curiosity" than seniors, and freshmen performing higher on "Knowledge of cultural worldview frameworks" and "Cultural curiosity" than sophomores is seemingly counter-intuitive. Simply being counter intuitive does not elevate this category to increased importance, but its relationship to the other three points makes this the second category the Academic Assessment committee deems worthy of deliberate and focused attention.

Moreover, the abilities or skills developed in this category are important on a number of levels. Not only are they valuable academic categories, they also have vast ranging application and consequences in terms of intra-personal development, inter-personal relationships, career and professional success, and civic engagement. Therefore, while scores "hover" around suffcient, this may be a category of development that demands definite differentiation between student groups, specifically in terms of performance gains, as student move through the categories' courses.

Finally, for consistency the same specific recommendations for improvement made for CCS4 are repeated here. Namely, first, to what extent there an issue with Inter-rater reliability? Second, to what extent is there a mismatch between assignment and rubric? Third, to what extent is there a mismatch between course and general education category? Fourth, are students being given ratings of one when they do not complete or participate in the assignment? Fifth, are there demographic factors influencing data that need to be explored? Sixth, and more comprehensively, to what extent could other relevant lines of inquiry be associated with the lack of performance by seniors?

#### **IP2 – Experience**

Regarding the results for this category, a few items stand out. First, seniors and upper-division students did not perform significantly better than freshmen and lower-division students, respectively. Second, the sample size for freshmen, less than 10, complicates the validly and reliability of this group's performance. Additionally, the sophomore samples size is also less than 10. Third, that lack of variability in the freshmen group also makes comparison impossible. Consequently, the Academic Assessment committee believes this sub-category is skewed in non-random ways.

However, these aberrations did not elevate IP2 to the level of CCS4 and IP1 in terms of formal recommendations. This is due to several facts, most important among them are, A) The genesis of several issues of concern are easily

identifiable in aggregate, or are readily known through analysis of the raw data, and B) the remedies to be applied are seemingly straightforward. Nonetheless, the Academic Assessment committee values feedback on this category, as it does on all categories.

## Section E: Recommendations

The Academic Assessment Committee has chosen to target two general education categories for further exploration based on this first full cycle of data collection and analysis. Reasons for the selection of these two categories is found under the Analysis section of this report. Our recommendation is that faculty who teach the courses under CCS4 and IP1 convene separately for discussion regarding the questions raised in this report. Faculty who assess these two general education categories are in the best position to consider the questions raised in this report -- as well as others that might arise – and are equally in the best position to make recommendations to the general faculty regarding potential improvements to assessment process, assessment tools, methodology, data collection, or data analysis.

#1: Faculty members who teach the courses assessed under the general education sub-category CCS4 should come together as a whole group at least once and potentially more than once. The discussion will be facilitated by a member of the Academic Assessment Committee and should focus on a common context to increase the awareness and understanding of the data and decrease data variability and redundancy.

The following questions are advanced as beginning guides for these conversations:

- Is there an issue with inter-rater reliability?
- Is there a mismatch between assignment(s) and rubric?
- Is there a mismatch between course(s) and general education category?
- Are students being given ratings of one when they do not complete or participate in the assignments?
- Are there demographic factors influencing data that need to be explored?
- Are there other factors that might be contributing to the lack of a significant difference between the performance of seniors and freshmen in this general education category?

#2: Faculty members who teach the courses assessed under the general education sub-category of IP1 should come together as a whole group at least once and potentially more than once. The discussion will be facilitated by a member of the Academic Assessment Committee and should focus on student performance, especially senior performance within the general education category of IP, and on a common context to increase the awareness and understanding of the data and decrease data variability and redundancy.

The following questions are advanced as beginning guides for these conversations:

- Is there an issue with inter-rater reliability?
- Is there a mismatch between assignment(s) and rubric?
- Is there a mismatch between course(s) and general education category?
- Are students being given ratings of one when they do not complete or participate in the assignments?
- Are there demographic factors influencing data that need to be explored?
- Are there other factors that might be contributing to the lack of a significant difference between the performance of seniors and freshmen in this general education category?

# **Appendix: Descriptive Information Regarding General Education**

### Notable Points:

- 1. Nine programs, and their attached GE courses, represent 53.7% of courses offered
- 2. The top ten programs represent 56.6% of courses offered
- 3. There are 19 programs that represent less than 1% each of total GE courses
- 4. These same 19 programs, when all courses are combined, represent 11% of total courses offered
- 5. Bottom ten programs, and their attached courses, represent 3.5% of total courses offered
- 6. Of the 424 courses listed in the catalog as GE courses, 57% are 200 (29%) and 300 (28%) level courses
- 7. 100 Level courses represent 19% of GE courses
- 8. 400 Level courses represent 22% of GE courses
- 9. 95 Level courses represent 1.4% of GE courses
- 10. CCS courses comprise 58.7% of GE courses

CCS1	47	11.08%
CCS2	33	7.78%
CCS3	56	13.21%
CCS4	35	8.25%
CCS5	42	9.91%
CCS6	36	8.49%

11. IP courses comprise 23% of GE courses

IP1	63	14.86%
IP2	35	8.25%

12. PSR courses comprise 18% of GE courses

PSR1	23	5.42%
PSR2	23	5.42%
PSR3	31	7.31%

- 13. Percentage of courses duplicated in two GE categories is 32.5% (105); percentage in one is 67.5% (218)
- 14. Prominent programs in GE course offerings include History (54 courses), Art (31 courses), Psychology (28 courses), English (21 courses), Geography (19 courses)

## Notable Points - General Education Categories:

## CCS

- 1. Four programs (History, Art, Chemistry, Psychology) account for 34.5% of courses offered
- 2. Seven programs (the four above & English, Geography, Sociology) account for 49% of courses offered
- 3. For all CCS, courses at the 200 and 300 levels account for 60% of courses offered
- 4. For CCS6, the top nine programs account for 64% of courses offered
- 5. For CCS6, 300 and 400 Level courses account for 61% of courses offered.
- 6. Six programs (Hist, SOC, ART, ENGL, GEOG, MATH) account for 55% of courses offered in CCS5. History alone accounts for 19% of courses offered.
- 7. For CCS5, 300 Level courses account for 52% of courses offered.

- 8. For CCS4, 100 and 200 Level courses account for 66% of courses offered
- 9. Six programs (Chem, Psy, MATh, GEOG, GEOL, NURS) represent 63% of courses in CCS4
- 10. Six programs (Hist, Art, Geog, HUM, ENGL, THEA) represent 59% of courses offered in CCS3
- 11. For CCS3, 200 and 300 Level courses account for 73% of courses offered
- 12. Six programs (Hist, Art, PSY, ENGL, CJ, THEA) represent 70% of courses in CCS2
- 13. 200 and 300 level courses account for 66% OF CCS2 COURSES
- 14. For CCS1, 200 Level courses account for 54% of courses offered

## IP

- 1. For IP1, the top seven programs (Hist, ENLG, GEOG, PSY, MUSC, LAT, ART) account for 42% of courses offered. History alone account for 15% of courses offered.
- 2. For all IP, the top five programs (Ed, NURS, INT, SPED, BADM) account for 14% of courses offered.
- 3. For IP, 100 level courses account for 10% of courses offered
- 4. For IP2, no 100 Level course is offered
- 5. For IP1, 73% of courses are 200 and 300 Level courses
- 6. Of the 98 courses offered for IP, 63 are IP1 and 35 are IP2

## PSR

- 1. For PSR1, 70% of courses offered are at the 300 and 400 Level
- 2. For PSR1, two courses are offered at the 100 Level
- 3. Four programs (SOC, NURS, GEOG, INT) account for 35% of courses in PSR1
- 4. For all PSR, six programs (Art, KIN, NURS, PSY, THEA, BADM) account for 49% of courses offered
- 5. 300 and 400 Level courses account for 65% of PSR2
- 6. 100 and 200 Level courses account for 84% of PSR3; 58% are 100 Level courses
- 7. Four, or 17%, of PSR2 courses are 095
- 8. For PSR3, three programs (Art, KIN, Music) account for 25% of courses offered