

James Madison University



2024 SCHEV Report on Critical Thinking



What does JMU expect students to learn or to do? What courses, experiences, or activities allow students to develop their knowledge and/or abilities in these areas?

Critical Thinking is central to the JMU liberal arts and sciences education because it is a necessary skill for success in a student's academic career and in their life beyond college. It is the ability to subject one's own and others' ideas, arguments, assumptions, and evidence to careful and logical scrutiny in order to make an informed judgement, draw a sound conclusion, or solve a problem. These skills are developed across the JMU curriculum, in all General Education classes and in the major and minor programs of study.

As a foundation of learning, the University requires every JMU student to complete a Critical Thinking requirement in the General Education program during their first year. These current first-year course offerings cross six academic disciplines: Business Decision Making in a Modern Society; Critical Issues in Recent Global History; Critical Questions in Education; Problem Solving Approaches in Science and Technology; Philosophy: Critical Thinking; Ethical Reasoning; and Mediated Communication: Issues and Skills. The breadth of these courses illustrates how essential Critical Thinking is to the many disciplinary areas of expertise and knowledge. Unique to JMU, all of these courses were developed by JMU faculty to meet a set of common learning outcomes:

After completing one of the JMU first-year courses in Critical Thinking, students will be able to:

- ï Identify the basic components of arguments, including premises, supporting evidence, assumptions, conclusions, and implications.*
- ï Evaluate claims and sources for clarity, credibility, reliability, accuracy, and relevance.*
- ï Evaluate arguments for soundness, strength, and completeness.*
- ï Demonstrate an intellectual disposition to be fair-minded in considering evidence, arguments, and alternative points of view.*

How do faculty and staff know whether—and how well—students have learned?

In this past assessment cycle for Critical Thinking, 2021-2023, JMU administered direct measures to assess student learning at scale in the university's General Education program. JMU's regular assessment process is to require all incoming first-year students (~5,000 students annually), who are randomly assigned into subgroups, to complete a specific online assessment instrument during Orientation in August

(pretest); after completing 45-70 credit hours at the university, these students complete the same online test again on JMU's Assessment Day in February (posttest).

To measure Critical Thinking, the university deployed as its primary assessment instrument: HEIghten Critical Thinking Test (HCTT), originally designed by ETS, an external vendor. HCTT is a computer-based multiple-choice test with a scale score ranging from 150 to 180. It measures two dimensions of Critical Thinking: 1) Analytic Skills; and 2) Synthetic Skills. Analytic skills pertain to the ability to evaluate evidence and its use, as well as analyze and evaluate arguments. Synthetic Skills pertain to the ability to understand implications and consequences, as well as the ability to develop sound and valid arguments. Data were collected repeatedly from approximately 200 students for both pretest and posttest assessments, allowing us to examine how students changed in their Critical Thinking knowledge and skills from Fall 2021 to Spring 2023, and across different cohorts.

Are the institution's expectations in these areas being met?

Overall, the results show that in 2021 and 2023, JMU students performed equally well or slightly better than other students nationwide taking the HCTT when only considering students who engaged in taking the assessment. Students' Synthetic Skills were stronger when considered against the comparison group. Notably, during this assessment cycle, several external conditions negatively impacted the collection of our data. First, the university was forced to switch to delivering the test remotely, rather than in-person, as had been done in the past; this shift was due to the Covid pandemic and correlated to a decline in student motivation and response rates. At the same time, the vendor administering the ETS-designed instrument changed, which affected data collection and the change in our comparison group from pretest to posttest. As a result of these external factors, we believe that results from this cycle, which show JMU student performance declining slightly from 2021 to 2023 [https://www.jmu.edu/assessment/_files/pdf/hctt_table.docx], do not accurately reflect the positive student learning in Critical Thinking at JMU that happens in our first-year courses and across the curriculum.

How does/will the institution use this information to improve students' educational experience and enhance future achievement?

During Summer 2022, a team of seven JMU faculty, representing the breadth of departments offering 100-level courses for the first-year Critical Thinking requirement, began to pilot new ways of assessing learning that are course-embedded. In the future, this early career assessment could be compared to Critical Thinking results from coursework in the junior year, as in the 300-level Integrative Learning courses that the JMU General Education Program has piloted since 2016. Yet another opportunity is to benchmark Critical Thinking learning as evidenced in senior capstone projects, which the University is just beginning to assess more broadly. In the future, as we move away from employing a non-JMU test,

the HCTT, we anticipate that such exciting and authentic opportunities for assessment will yield results that show meaningful learning improvement in Critical Thinking over time.