MANCHESTER — Manchester Community College has lost its bid for a state grant to expand its manufacturing training program.

MCC was one of six schools to apply for the grants, which total $20 million over the next two years. The money was approved by lawmakers as part of the economic development legislation they approved in October.

The grants went to Quinebaug Valley Community College in Killingly, the Naugatuck Valley Community College in Waterbury, and the Housatonic Community College in Bridgeport.

Asnuntuck Community College in Enfield got $2.2 million outside of the competitive grant program under a provision in the state law. That makes one program for each of the four regions in the state.

MCC had asked for $5.3 million so it could continue with plans to expand its precision manufacturing program into a new building and to create the first quality control inspector program in the state.

MCC President Gena Glickman said she was disappointed, but that the school would continue with its plans. “We are happy for our colleagues and know that there will be opportunities to partner with them to grow this critical job base in Connecticut,” she said in a statement.

MCC had planned to have an expanded program running within 18 months in a new building on the college’s east campus.

Colleen Flanagan, a spokeswoman for the Board of Regents for Higher Education, which awards the grants, said the decision was made based on each school’s ability to get started quickly with a large-scale proposal and each plan’s backing by area employers.

Gov. Dannel P. Malloy proposed using state money to help the community colleges expand their precision manufacturing training programs after visiting the Manufacturing Technology Center at Asnuntuck. The stop was part of what he called a “jobs tour” of businesses across the state this summer.

“I visited dozens of businesses in our state, and one constant refrain I heard was the need for an educated and skilled workforce, particularly within the manufacturing sector,” Malloy said. “If we’re going to increase job growth and remain competitive, we must be aware of how critically important it is for manufacturers to have access to employees with an advanced skill set.”