Ohio | Board of Regents
University System of Ohio

John R. Kasich, Governor
John Carey, Chancellor

INITIAL INQUIRY
REQUEST TO OFFER A NEW PROGRAM

Date of submission: *Date to come (sent after EPC)*

Name of institution: Kent State University

Primary institutional contact for this request:

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Name of new program: Mechanical Engineering Technology major within the Bachelor of Science degree

☐ New degree designation
☒ New program within an existing degree (e.g., major, minor, concentration)
☐ New technical certificate program
☐ New licensure/endorsement area (educator preparation)

Delivery options (check all that apply):

☒ Campus-based
☐ Online/hybrid delivery
☐ Flexible or accelerated delivery
☐ Offering the program at a new offsite location
☐ Offering the program at an existing offsite location
☐ Program contains off-campus experiences (e.g., internship, clinical, practicum, student teaching)

The institution will be seeking specialized accreditation for the program:

☐ No ☒ Yes

If "yes," provide the name of the accrediting agency:

Kent State University will seek accreditation for the degree program from the Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). ABET accredits more than 3,100 programs at more than 600 colleges and universities worldwide, including Kent State's associate degree programs in mechanical engineering technology and electrical/electronic engineering technology.

Provide a brief description of the request.

Kent State University proposes to offer a Mechanical Engineering Technology major within the Bachelor of Science degree, to be administered by the university's College of Applied Engineering, Sustainability and Technology on the Kent Campus.

This program is existing as a concentration within the college's Applied Engineering major. The goal is to elevate the concentration to a separate degree program (major) and align the curriculum more fully with ABET accreditation standards.

Explain the academic unit's rationale for making the request.

The Mechanical Engineering Technology is one of four concentrations in the Applied Engineering major.[1] The program has existed for more than 27 years as a concentration (previously names: manufacturing systems and manufacturing engineering technology). Since 2013, under the name mechanical engineering technology, the program has seen great advancement in terms of enrollment.

Fall Semester Student Enrollment (15th Day Census)
Mechanical Engineering Technology Concentration

2009	2010	2011	2012	2013	2014	2015	2016
20	16	14	21	37	73	112	123

Due to the gradual development of the concentrations in the Applied Engineering major to meet their respective market needs, the percentage of major courses for each of the concentrations has reduced to be 10 percent of the entire curriculum. Since the Ohio Department of Higher Education requires concentrations to comprise a minimum 50 percent of the major curriculum, this program is not in compliance.

Furthermore, the Applied Engineering major is accredited by the Association of Technology, Management and Applied Engineering (ATMAE). The college will seek to have its mechanical engineering technology program accredited, instead, by ABET. With different curriculum, learning outcomes and accreditation standards, the Applied Engineering and Mechanical Engineering Technology programs have gone down separate paths and now need to be made separate degree programs.

There are two public universities in Northeast Ohio offering an ABET-accredited bachelor's degree in mechanical engineering technology: University of Akron and Youngstown State University. Even with those programs offered in the same region, Kent State has clearly demonstrated growth in this area.

In addition to Kent State University, there are six public universities and colleges in Northeast Ohio offering an ABET-accredited associate degree in mechanical engineering technology: Stark State College, University of Akron, Youngstown State University, Lakeland Community College, Cuyahoga Community College and Lorain County Community College.

Graduates of a bachelor's degree in an engineering technology field are typically called technologists; whereas, graduates of an associate degree are called technicians.

1 The remaining three Applied Engineering concentrations are mechatronics, computer engineering technology and applied engineering and technology management.

The U.S. Department of Labor has designated mechanical engineering technologists as a bright outlook occupation,[2] specifically, as a new and emerging occupation in a high growth industry.

Comparison between the two levels:

	Bachelor's Degree Mechanical Engineering Technologist[3]	**Associate Degree Mechanical Engineering Technician**[4]
Sample of job titles:	CAD Designer, Engineer Technical Staff, Engineering Technologist, Mechanical Designer, Mechanical Designer/Wind-Chill Administrator, Senior Designer, Senior Process Analyst, Technical Staff Engineer, Tooling Engineering Technologist	Design Engineer, Designer, Engineering Lab Technician, Engineering Technical Analyst, Engineering Technician, Equipment Engineer, Lab Technician, Mechanical Designer, Process Technician, Research and Development Technician
Sample of job tasks:	■ Interpret engineering sketches, specifications, or drawings. ■ Assist engineers to design, develop, test, or manufacture industrial machinery, consumer products, or other equipment. ■ Design specialized or customized equipment, machines, or structures. ■ Prepare specifications, designs, or sketches for machines, components, or systems related to the generation, transmission, or use of mechanical or fluid energy. ■ Provide technical support to other employees regarding mechanical design, fabrication, testing, or documentation. ■ Inspect and test mechanical equipment. Conduct failure analyses, document results, and recommend corrective actions. Assemble or disassemble complex mechanical systems.	■ Read dials and meters to determine amperage, voltage, electrical output and input at specific operating temperature to analyze parts performance. ■ Analyze test results in relation to design or rated specifications and test objectives, and modify or adjust equipment to meet specifications. ■ Evaluate tool drawing designs by measuring drawing dimensions and comparing with original specifications for form and function using engineering skills. ■ Devise, fabricate, and assemble new or modified mechanical components for products such as industrial machinery or equipment, and measuring instruments. ■ Discuss changes in design, method of manufacture and assembly, and drafting techniques and procedures with staff and coordinate corrections.

Indicate whether additional faculty and staff will be needed to support the proposed request.

As the program is existing, faculty and staffing are sufficient. The college will determine if additional faculty will be needed based on enrollment projections each year in the proposed program.

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[2] National Center for O*NET Development. Bright Outlook Occupations. *O*NET OnLine*. Retrieved from www.onetonline.org/help/bright.
[3] National Center for O*NET Development. 17-3029.07. *O*NET OnLine*. Retrieved from www.onetonline.org/link/summary/17-3029.07.
[4] National Center for O*NET Development. 17-3027.00. *O*NET OnLine*. Retrieved from www.onetonline.org/link/summary/17-3027.00.