

BAKER COLLEGE  
Waiver Form - Office Copy  
**Mechanical Engineering**  
Bachelor of Science

**Acknowledgment Form - Open Enrollment Programs**

***Essential Functions and Technical Requirements***

The essential functions required by the curriculum are in the following areas: motor, sensory, communication, and intellectual (conceptual, integrative, quantitative abilities for problem solving, and the behavioral and social aspects that impact the performance). \* Technical requirements, as distinguished from academic standards, refer to those physical, cognitive, and behavioral abilities required for satisfactory completion of all aspects of the curriculum and the development of professional attributes required by the faculty of all students at graduation. These essential functions and technical requirements are referred to as the "Essential Functions."

These Essential Functions are not conditions of admission to the College or the program. The Essential Functions provide information regarding continued eligibility in this program. A student may be qualified for and admitted to the program, but later be redirected due to a failure to develop and exhibit the Essential Functions. Persons interested in applying for admission to the program should review this information to develop a better understanding of the physical abilities and behavioral characteristics necessary to successfully complete the program.

By initialing each line below, I acknowledge and understand I am expected to possess the following Essential Functions:

- \_\_\_\_\_ Cognitive abilities necessary to master relevant content in courses at a level deemed appropriate by the College. These skills may be described as the ability to comprehend, memorize, analyze, and synthesize material in a timely manner. The student must maintain the minimum grade point average (GPA) determined by each program in order to continue with coursework to complete a chosen degree. Students must have a cumulative GPA of at least 2.0 to graduate from any program; however, please note that some programs require a higher GPA in order to continue with coursework.
- \_\_\_\_\_ Ability to assess all information. The student must be capable of responsive and empathetic listening to establish rapport in a way that promotes openness on issues of concern and sensitivity to potential cultural differences.
- \_\_\_\_\_ Emotional stability to function effectively under stress and to adapt to an environment, which may change rapidly without warning, and/or in unpredictable ways.
- \_\_\_\_\_ Ability to understand the basis and content of ethical practice and possess attributes which include compassion, empathy, altruism, integrity, responsibility, and tolerance.
- \_\_\_\_\_ Ability to master information presented in coursework in the form of lectures, written material, and projected images, and the ability to seek and synthesize information from appropriate and varied sources.
- \_\_\_\_\_ Ability to recognize one's own limits, both personally and professionally, as related to one's skill and knowledge.
- \_\_\_\_\_ Ability to effectively communicate in English, both verbally and in writing, using accurate and appropriate terminology with classmates, faculty, and individuals of all ages, races, genders, and socioeconomic, and cultural backgrounds.

- \_\_\_ Ability to use computers and related technology.
- \_\_\_ Ability to prioritize, organize, and utilize time management skills.
- \_\_\_ Ability to identify, recognize, maintain, and disseminate accurate information.
- \_\_\_ Ability to correctly interpret, and/or clarify, verbal and written communications.
- \_\_\_ Ability to conduct oneself in a professional manner.
- \_\_\_ Ability to think critically and demonstrate problem-solving skills.
- \_\_\_ Ability to fulfill requirements of productivity and varying workloads.
- \_\_\_ Ability to demonstrate appropriate professional and procedural judgment decisions.
- \_\_\_ Ability to adhere to professional standards and Baker College professional conduct guidelines, policies, and procedures, including but not limited to, if at any time during a student's enrollment at Baker College, a student is charged with a felony, he/she **MUST** disclose this charge to a Baker College official. Failure to do so will result in immediate expulsion from the College.
- \_\_\_ I have reviewed and acknowledge that I am expected to possess the program-specific Essential Functions located on the Program Information document.

The faculty content expert, program official, clinical coordinator, or employment supervisor is qualified and competent to assess the student's ability to perform the Essential Functions.

\*The College complies with the requirements and spirit of Section 504 of the Rehabilitation Act of 1973 as amended, and the Americans with Disabilities Act of 1990 (ADA), as amended by the Americans with Disabilities Act Amendments Act of 2008 (ADAAA). Therefore, the College will endeavor to make reasonable accommodations for participants with disabilities who are otherwise qualified.

---

Student Name (Print)

Student UIN

---

Student Signature

Date

---

Baker College Representative Signature

Date

Printed: 2015/10/08

**BAKER COLLEGE**  
**Waiver Form - Student Copy**  
**Mechanical Engineering**  
**Bachelor of Science**

**Acknowledgment Form - Open Enrollment Programs**

***Essential Functions and Technical Requirements***

The essential functions required by the curriculum are in the following areas: motor, sensory, communication, and intellectual (conceptual, integrative, quantitative abilities for problem solving, and the behavioral and social aspects that impact the performance). \* Technical requirements, as distinguished from academic standards, refer to those physical, cognitive, and behavioral abilities required for satisfactory completion of all aspects of the curriculum and the development of professional attributes required by the faculty of all students at graduation. These essential functions and technical requirements are referred to as the "Essential Functions."

These Essential Functions are not conditions of admission to the College or the program. The Essential Functions provide information regarding continued eligibility in this program. A student may be qualified for and admitted to the program, but later be redirected due to a failure to develop and exhibit the Essential Functions. Persons interested in applying for admission to the program should review this information to develop a better understanding of the physical abilities and behavioral characteristics necessary to successfully complete the program.

By initialing each line below, I acknowledge and understand I am expected to possess the following Essential Functions:

- \_\_\_ Cognitive abilities necessary to master relevant content in courses at a level deemed appropriate by the College. These skills may be described as the ability to comprehend, memorize, analyze, and synthesize material in a timely manner. The student must maintain the minimum grade point average (GPA) determined by each program in order to continue with coursework to complete a chosen degree. Students must have a cumulative GPA of at least 2.0 to graduate from any program; however, please note that some programs require a higher GPA in order to continue with coursework.
- \_\_\_ Ability to assess all information. The student must be capable of responsive and empathetic listening to establish rapport in a way that promotes openness on issues of concern and sensitivity to potential cultural differences.
- \_\_\_ Emotional stability to function effectively under stress and to adapt to an environment, which may change rapidly without warning, and/or in unpredictable ways.
- \_\_\_ Ability to understand the basis and content of ethical practice and possess attributes which include compassion, empathy, altruism, integrity, responsibility, and tolerance.
- \_\_\_ Ability to master information presented in coursework in the form of lectures, written material, and projected images, and the ability to seek and synthesize information from appropriate and varied sources.
- \_\_\_ Ability to recognize one's own limits, both personally and professionally, as related to one's skill and knowledge.
- \_\_\_ Ability to effectively communicate in English, both verbally and in writing, using accurate and appropriate terminology with classmates, faculty, and individuals of all ages, races, genders, and socioeconomic, and cultural backgrounds.

- \_\_\_ Ability to use computers and related technology.
- \_\_\_ Ability to prioritize, organize, and utilize time management skills.
- \_\_\_ Ability to identify, recognize, maintain, and disseminate accurate information.
- \_\_\_ Ability to correctly interpret, and/or clarify, verbal and written communications.
- \_\_\_ Ability to conduct oneself in a professional manner.
- \_\_\_ Ability to think critically and demonstrate problem-solving skills.
- \_\_\_ Ability to fulfill requirements of productivity and varying workloads.
- \_\_\_ Ability to demonstrate appropriate professional and procedural judgment decisions.
- \_\_\_ Ability to adhere to professional standards and Baker College professional conduct guidelines, policies, and procedures, including but not limited to, if at any time during a student's enrollment at Baker College, a student is charged with a felony, he/she MUST disclose this charge to a Baker College official. Failure to do so will result in immediate expulsion from the College.
- \_\_\_ I have reviewed and acknowledge that I am expected to possess the program-specific Essential Functions located on the Program Information document.

The faculty content expert, program official, clinical coordinator, or employment supervisor is qualified and competent to assess the student's ability to perform the Essential Functions.

\*The College complies with the requirements and spirit of Section 504 of the Rehabilitation Act of 1973 as amended, and the Americans with Disabilities Act of 1990 (ADA), as amended by the Americans with Disabilities Act Amendments Act of 2008 (ADAAA). Therefore, the College will endeavor to make reasonable accommodations for participants with disabilities who are otherwise qualified.

---

Student Name (Print)

Student UIN

---

Student Signature

Date

---

Baker College Representative Signature

Date

Printed: 2015/10/08

BAKER COLLEGE  
Program Information  
**Mechanical Engineering**  
Bachelor of Science

**Campuses:** *Flint, Jackson.*

**Program Description**

The mission of the Baker College Department of Mechanical Engineering is to provide quality higher education and training in the fundamental principles and sound practice of engineering which will enable graduates to be an asset to society and successful throughout challenging and rewarding careers. Mechanical engineers are involved in the design, development, manufacturing and testing of a wide array of mechanical devices, systems, and processes. They work in diverse areas such as power generation and utilities, aerospace, automotive and transportation, automation and robotics, environmental, chemical, computer, and biomedical industries. Mechanical engineers also work in research, education, and consulting. In all these fields they combine creativity and use of engineering principles to improve the quality of our lives.

---

**Accreditation Status**

This program is accredited by the Engineering Accreditation Commission of ABET; Web Address: <http://www.abet.org>. This program is accredited on the following campus: Flint.

**Mission and Goals**

The mission of the Baker College Department of Mechanical Engineering is to provide quality higher education and training in the fundamental principles and sound practice of engineering which will enable graduates to be an asset to society and successful throughout challenging and rewarding careers.

**Goals**

**Program Educational Objectives:**

To prepare graduates who:

1. demonstrate competence in engineering practice in local and global industry environments, or in related careers in government or academia.
2. exhibit effective communication, team work, and readiness for leadership while acting ethically and professionally.
3. maintain awareness of societal and contemporary issues and fulfill community and society's needs.
4. actively engage in lifelong learning, by completing professional development/training courses and workshops, acquiring engineering certification, or pursuing and completing an advanced degree.

**Student Outcomes:**

Graduates will demonstrate:

- a. an ability to apply knowledge of mathematics, science and engineering.
- b. an ability to design and conduct experiments as well as analyze and interpret data.
- c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- d. an ability to function on multi-disciplinary teams.
- e. an ability to identify, formulate, and solve engineering problems.
- f. an understanding of professional and ethical responsibility.
- g. an ability to communicate effectively.

- h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- i. a recognition of the need for and an ability to engage in lifelong learning.
- j. a knowledge of contemporary issues.
- k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- l. an ability to apply principles of engineering, basic science, and mathematics (including multivariate calculus and differential equations) to model, analyze, design, and realize physical systems, components, or processes.
- m. an ability to work professionally in either thermal or mechanical systems areas.

***Note to transfer students:***

Courses from programs not accredited by Engineering Accreditation Commission of ABET will not be accepted for transfer at the 200 level or above, unless supported by detailed curriculum documentation, subject to approval by the Dean.

***Annual Enrollment and Graduate Information:***

During the most recent academic reporting year, 2012 - 2013, there were 87 students enrolled in the Bachelor of Science in Mechanical Engineering program and two graduates during that same period.

**Essential Functions/Technical Requirements**

The Essential Functions and Technical Requirements specific to this program include:

- \* the ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities.
- \* the ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments, and to apply experimental results to improve processes.

Printed: 2015/10/08