



Existing Program Report

Date Submitted:

08/01/2019

Institution

Missouri University of Science & Technology

Institution Program Title

A01030010301001010065 - BS - Mechanical Engineering - 141901

Implementation Date:

New Site Information

Added Site(s):

Missouri State University , 901 S National Avenue, Springfield, MO, 65897

Selected Site(s):

Missouri University of Science & Technology, 206 Parker Hall, Rolla, MO, 65409-0470

Options

Current Options:

General

Control Systems

Energy Conversion

Environmental Systems

Instrumentation

Manufacturing Processes

Materials Science

Mech Design & Analysis

Thermal Science

Options Added:

Mode of Delivery

Classroom

Hybrid

Assurances

I certify that the program is clearly within the institution's CBHE-approved mission. The proposed new program must be consistent with the institutional mission, as well as the principal planning priorities of the public institution, as set forth in the public institution's approved plan or plan update.

I certify that the program will be offered within the proposing institution's main campus, CBHE-approved service region or CBHE-approved off-site location.

I certify that the program will not unnecessarily duplicate an existing program within the geographically applicable area.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the program can be launched with minimal expense and falls within the institution's current operating budget.



Existing Program Report

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

First and Last Name:

Email:

Phone:



Office of the Provost

July 23, 2019

MEMO TO: Kimberly Hoffman, Ph.D., Director, Research Operations and Planning; UM Academic Affairs Communication

FROM: Stephen J. Roberts, Interim Provost and Executive Vice Chancellor for Academic Affairs

RE: Adding Mechanical Engineering Degree at Off-site Location at Missouri State University Fall 2020 for S&T Sophomores

With this letter, I am requesting approval for Missouri S&T to offer its mechanical engineering degree on the Missouri State University campus, through an existing cooperative program between the two universities. A historical summary for context is provided below, and a detailed curriculum proposal is attached.

In 2005, the state legislature authorized and funded a cooperative engineering program between Missouri S&T and Missouri State University. On August 21, 2006, a memorandum of understanding between the two universities was signed to establish the Missouri S&T-MSU Cooperative Engineering Program. Through this program, Missouri S&T, in cooperation with MSU, delivers Missouri S&T Bachelor of Science degrees in Civil Engineering and Electrical Engineering on-site at the MSU campus. The cooperative program was approved by the Higher Learning Commission on January 29, 2007 and operates within Missouri S&T ABET accreditation. The Cooperative Engineering Program enrolled its first students in August, 2008. This program was originally limited to students who reside in southwest Missouri. This restriction was removed in a letter of agreement between the two campuses, dated December 6, 2017.

On December 21, 2016, a memorandum of understanding was signed by officials of the two campuses to add mechanical engineering as a third degree option in the Cooperative Engineering Program (attached). In 2016, the state appropriated funds specifically for the addition of the mechanical engineering program, which was targeted to begin accepting students in the fall of 2017. The governor held back the appropriations in the spring of 2017, putting on hold the initiation of the mechanical engineering program.

In 2018, the state again appropriated funds for the mechanical engineering cooperative program, this time as part of the base line budget of the university. With this funding, the memorandum of understanding to initiate the mechanical engineering program was



revived. The program is targeted to accept entering freshmen to MSU in the fall of 2019, with admission to the S&T mechanical engineering degree program as sophomores in fall of 2020, and phasing in the full program over a four year period. The current cooperative program with degrees in electrical engineering and civil engineering is supporting approximately 175 students, graduating about 30 each year. The mechanical engineering program is expected to attain about the same number within five years, thus doubling the size of the cooperative program. Accordingly, funding from the state appropriations are currently being utilized to expand and renovate the MSU's Plaster Center for Free Enterprise building to accommodate the classroom, lab, and office needs of an expanded cooperative program.

Consistent with the two existing cooperative degree programs, it has been decided that the proposed program will be the same degree as on the S&T campus, under the same ABET accreditation, titled "mechanical engineering." The mechanical engineering degree will be offered with an emphasis area in Systems Integration to optimize the curriculum for the needs of the cooperative program and its anticipated key employers. Details of the curriculum are attached.

The mechanical engineering degree will be delivered in a similar manner as the two other degrees in the cooperative program. MSU provides pre-engineering and general education courses. Missouri S&T provides the upper level engineering curriculum, primarily with on-site classroom-based instruction with resident faculty, supplemented with synchronous distance courses from the S&T campus. Oversight and administration of the mechanical engineering program is through the Department of Mechanical and Aerospace Engineering at Missouri S&T. The details of the program administration, including admission, registration, and financial, are stipulated in the cooperative program's Operations Manual (attached), and are supported by appropriate offices of both campuses, with oversight from the Director of the cooperative program.

I look forward to your response, and will be pleased to promptly provide any additional information that you may require.

SJR/krc

Attachments: MSU MOU
S&T and MSU Cooperative Program Operations Manual signed 9.26.2018
Degree Information for Proposed Off-Site Delivery of BSME

cc: Dr. Keith Nisbett, Acting Mechanical Engineering Chair
Dr. Rich Wlezien, CEC Vice Provost and Dean
Deanne Jackson, Registrar
Dr. Richard Brow, Interim Deputy Provost

Missouri University of Science and Technology—Missouri State University
Cooperative Engineering Program Operations Manual
Draft August 13, 2018

Oversight and Implementation

The Missouri S&T Vice Provost and Dean of the College of Engineering and Computing will have administrative oversight for the program. Missouri S&T department chairs for Civil Engineering, Electrical Engineering, and Mechanical Engineering have responsibility for their respective degree programs on the MSU site. MSU will provide student services. Students will be advised academically by engineering faculty at MSU. Oversight for all academic matters at MSU will be handled by the respective academic departments at Missouri S&T in a manner consistent with those in place at Missouri S&T. Oversight of the MSU budget for the cooperative engineering program, faculty/staff hired by MSU, facilities and equipment will be handled by the program director under the supervision of the MSU Dean of the College of Natural and Applied Sciences. The two deans will meet regularly to ensure coordination.

Evaluation

The programs will be evaluated annually through overall metrics such as enrollment and revenue generation. Revenue generation will be compared to program expense and opportunities for program enhancement and evaluation. Surveys of regional employers will be used to determine whether their needs are being met by each of the programs. The outcomes of measures for student learning, continuous improvement, faculty, facilities and support will be compared to analogous measures of the existing programs on the Missouri S&T campus to evaluate the effective of the program in each of these areas.

Application and Admission Process

To enroll in the Cooperative Engineering program, all students must first be admitted to MSU. Students will later apply for admission to Missouri S&T, as directed by the Cooperative Engineering Program Office before the semester in which they plan to enroll in their first Missouri S&T course.

MSU Application

Students should contact MSU Admissions or the Cooperative Engineering Program Office for further information about applying for admission.

- Students first apply and are admitted to MSU before enrolling in MSU courses. Students go through the standard MSU on-line application process to be admitted as regular degree seeking students.
- MSU will “pre-admit” students wishing to pursue a degree in the Cooperative Engineering Program, assuming they meet the MSU admission standards. Pre-admitted students will be advised by faculty in the engineering program, but are not officially in the program until they are admitted to one of the engineering programs at Missouri S&T (Civil, Electrical, or Mechanical).
- Students will normally complete the freshman engineering courses prior to applying for admission to one of the engineering programs at Missouri S&T (Civil, Electrical, or Mechanical). Occasionally there are students who need only one or two more courses to complete the required freshman engineering curriculum, and need to be admitted to Missouri S&T so they can enroll in an engineering course and maintain full-time student

status. In such cases, students will be admitted to the Freshman Engineering program at Missouri S&T. Students admitted to Freshman Engineering are not officially in the academic program (i.e. Civil, Electrical or Mechanical). After completing the freshman engineering courses, students will apply for admission to one of the engineering programs (Civil, Electrical, or Mechanical).

Missouri S&T Application

- **First-Time Admission**

Before beginning any Missouri S&T designated coursework, a student must be admitted to Missouri S&T. Students will submit a regular undergraduate application for admission as a transfer student for either Civil Engineering, Electrical Engineering or Mechanical Engineering. All applications will be submitted on-line the same way that any transfer student would apply for admission to Missouri S&T. Students shall not apply for admission to Missouri S&T until they have been advised by the Cooperative Engineering program office that it is time for them to apply. The administrative assistant in the Cooperative Engineering program office will notify the Transfer Admissions office at Missouri S&T that the student plans to be in the Cooperative Engineering program. Once admitted by the Transfer Admission office at Missouri S&T, Cooperative Engineering Program students will be given an XMSU campus designation.

- **Former S&T Students**—Students who formerly attended S&T as regularly admitted students, not currently enrolled at S&T, and now wish to enroll through the Cooperative Engineering Program will submit the Former Undergraduate Student Returning Admission Application. This form must be submitted to the Cooperative Engineering Program office in Springfield. The Cooperative Engineering program office will send the form to the registrar and copy transfer admissions at Missouri S&T.

- **Current S&T Students**—Students who are currently attending Missouri S&T should follow the steps in the Change of Campus Location section below.

Admission Criteria

Admission criteria to Missouri S&T through the Cooperative Engineering Program are consistent with admission criteria for all Missouri S&T transfer students as published in the Missouri S&T Undergraduate Catalog. Students will be considered for admission to Freshman Engineering, Civil Engineering, Electrical Engineering, or Mechanical Engineering. Typically, admission to an engineering program requires a minimum 2.5 cumulative GPA at the time of application and satisfactory progress through foundational engineering coursework, however individual academic departments may have specific admission criteria in addition to basic admission requirements.

Civil, Electrical or Mechanical Engineering

Students who meet GPA criteria as noted above and will have completed the following course work before the semester for which they are applying will be considered for admission to Civil, Electrical or Mechanical Engineering:

- Math 1214 Calculus for Engineers I (MTH 261)
- Math 1215 Calculus for Engineers II (MTH 280)
- Physics 1135 General Physics I (PHY 203)
- Chemistry 1310, 1319 General Chemistry I and Lab (CHM 160, 161)

- FE 1100 Study and Careers in Engineering (EGR 110)
- ME 1720 Introduction to Engineering Design (TCM 110)
- English 1120 Exposition and Argumentation (ENG 110)
- History 1300, 1310 or Political Science 1200 (HST 121, 122 or PLS 101)

Freshman Engineering

Students who meet GPA criteria as noted above and will not have completed the outlined course work before the semester for which they are applying will be considered for admission to Freshman Engineering. Students will move from Freshman Engineering to either Civil, Electrical, or Mechanical Engineering by the same process and criteria used by Missouri S&T on-campus students as published in the Missouri S&T catalog.

Admission Notification

Students will receive a revised form of the regular undergraduate admissions letter directing them to contact the Cooperative Program Office in Springfield for assistance with Missouri S&T advising and registration.

Change of Campus Location

Current S&T Cooperative Engineering Program Students—Students who are currently enrolled in the Cooperative Engineering Program in Springfield and who wish to transfer to the main campus in Rolla should follow these steps:

- Contact the Cooperative Engineering Program office in Springfield, Missouri, to obtain necessary paperwork.
- Submit a Current Missouri S&T Student Change of Campus Location form to the Missouri S&T Registrar's office along with transcripts as necessary.
- Contact Missouri S&T Transfer Admissions to coordinate advising, and registration processes.

Current S&T Main Campus Students—Students who are currently attending Missouri S&T in Rolla and wish to transfer to the Cooperative Engineering Program in Springfield should follow these steps:

- Contact the Cooperative Engineering Program office in Springfield, Missouri, to coordinate all campus change, advising, and registration processes.
- Apply and be admitted to MSU as a regular degree seeking student. Submit a Current Missouri S&T Student Change of Campus Location form to the Missouri S&T along with transcripts as necessary.

Transfer and Articulation

Articulation Agreements

All articulation agreements and transfer course guides relating to Missouri S&T degrees offered through the Cooperative Program will be the responsibility of the Missouri S&T Office of Admissions. The establishment of new agreements and the revision of existing agreements will be the responsibility of the Missouri S&T Office of Admissions.

Transfer Guides

Guides outlining appropriate transfer course work for transfer students interested in pursuing a Missouri S&T degree through the Cooperative Engineering Program will be the responsibility of the Missouri S&T Transfer Admissions Office.

Program Recruitment and Marketing

- Missouri S&T and MSU will incorporate recruitment for the Cooperative Program into their regular recruitment activities in a manner consistent with each campus's strategic goals.
- Recruiting materials will be reviewed periodically by both campuses to ensure they are current and consistent.

Records and Registration

Transfer Credits

Once a student is admitted, all college-level credits and grades from MSU and other institutions will transfer to Missouri S&T according to guidelines published in the Missouri S&T catalog. Students will receive a letter and directions for accessing their transfer credit report. Grades not included in MSU's GPA due to a repeat or forgiveness policy may be removed from the S&T cumulative GPA upon verification to the Registrar's Office. No more than 15 semester transfer hours will be dropped from the calculation of the student's cumulative GPA. Students participating in grade forgiveness must submit to the S&T Registrar a Transfer Credit Course GPA Adjust Form.

Transfer Grades

Students will follow the grading policies of the campus offering the course (i.e. if the course is designated and transcribed by MSU; the MSU grading policies will apply). Missouri S&T does not recognize plus (+) or (-) as part of the grade. Grades will transfer to Missouri S&T only as straight A, B, C, or other recognized grades for GPA calculation and other transcribing purposes. This may result in variations between the MSU GPA and the Missouri S&T transfer GPA.

Repeat Course GPA Adjustment Policy

The repeat course GPA adjustment policy is effective with Missouri S&T coursework repeated fall of 2001 or later. When a grade of "D" or "F" is received in a Missouri S&T course, the grade may be replaced in the calculation of the GPA if the course is repeated at Missouri S&T. No more than 15 semester hours will be dropped from the calculation of the student's GPA and a repeated course may only be used to replace one previous grade in that same course in the GPA calculation. Grades of "I", "W", "HR" or "Pass/Fail" will not replace the previous grade. All grades earned will appear on the student's transcript. A statement of the repeat policy will be included on the transcript to explain the calculation of the GPA. After repeating a course, the student must submit a Repeat Course GPA Adjustment form (available on the Registrar's website) to the Registrar's Office to have the GPA changed. The new grade will replace the old grade in all GPA calculations in which the previous grade was used, with the exception of the UM GPA used for calculation of graduation honors. If a student does not submit the Repeat Course GPA Adjustment, both grades will be used in GPA calculations. The scholastic standing of a student for a past semester will not be changed as a result of repeating a course. This policy applies to undergraduate students only and may not be applied once the student has graduated.

National Student Clearinghouse

Both Missouri S&T and MSU will certify the student's enrollment at their campus to the National Student Clearinghouse.

Student Tracking

Both schools will identify students in their systems for tracking and further processes. At S&T the students will be tracked with a campus location and student group of "XMSU." Courses offered by S&T on the MSU campus will also have a campus location of "XMSU" and a section identifier of MSU.

Student Advising and Advising Holds

The Cooperative Engineering Program director and faculty will be assigned by the academic department as the advisor(s) of record for Cooperative Engineering Program students. The Cooperative Engineering Program director will coordinate advising processes and access to advising holds with the student's academic department.

Faculty and staff in Springfield will have access to student records in the MSU and Missouri S&T systems. They will have access to view records and run degree audits on students in the Cooperative Engineering program. Department Chairs and their designees at Missouri S&T will have access to the MSU student records for students in the Cooperative Engineering program.

Student Registration

After students are admitted to MSU as regular degree seeking students, and to either the Civil, Electrical or Mechanical Engineering programs or Freshman Engineering at Missouri S&T they will be eligible to register for the prescribed courses in the program. They will proceed through the registration process on each campus when selecting those courses.

Placeholder Courses

When students are taking S&T courses, a "placeholder" course will be added to their MSU schedule. This will enable them to receive optimal financial aid and enrollment certification status. For example, if a student is enrolled in 9 hours of MSU courses and 3 hours of S&T courses, the student's MSU schedule will show a total of 12 hours of enrollment with 3 of those hours for a special tracking course. A section of this course will be created for each Missouri S&T course being offered for a given term. The sections will contain the corresponding Missouri S&T course in the section title and have the appropriate credit hours. Missouri S&T fees will be assessed for these sections and the credit hours of these sections will be counted toward determining the total MSU Student Services Fees to be assessed. These tracking courses will be graded with an Incomplete (I) grade. The "I" grade will be changed to a No Value (NV) grade once the Missouri S&T transcript is received and processed by the MSU Office of Admissions and appropriate transfer credit is posted to the student record. Generally the courses will be posted as EGR electives.

EGR 200 Civil Engineering 2000 level courses at Missouri S&T. The section number will complete the Missouri S&T course number. Example: CE 2210 will have a MSU placeholder course EGR 200 section 210. The placeholder course title will be Mechanics of Materials.

EGR 201 Electrical or Computer Engineering 2000 level courses at Missouri S&T. The section number will complete the Missouri S&T course number. Example: Comp Eng 2210 will have a MSU placeholder course EGR 201 section 210. The placeholder course title will be Introduction to Computer Engineering.

- EGR 202 Mechanical Engineering 2000 level courses at Missouri S&T.
- EGR 300 Civil Engineering 3000 level courses at Missouri S&T.
- EGR 301 Electrical Engineering 3000 level courses at Missouri S&T.
- EGR 302 Mechanical Engineering 3000 level courses at Missouri S&T.
- EGR 400 Civil Engineering 4000 level courses at Missouri S&T.
- EGR 401 Electrical Engineering 4000 level courses at Missouri S&T.
- EGR 402 Mechanical Engineering 4000 level courses at Missouri S&T.
- EGR 500 Civil Engineering 5000 level courses at Missouri S&T.
- EGR 501 Electrical Engineering 5000 level courses at Missouri S&T.
- EGR 502 Mechanical Engineering 5000 level courses at Missouri S&T.

The Missouri S&T Registrar's office will provide the Staff of the Cooperative Engineering office and the S&T Cashier's Office with a class registration list which will detail all Cooperative Engineering Program students and the S&T courses for which they are registered.

Consortium Agreement

Some students take classes at OTC, MSU and S&T in the same semester, or any combination. Engineering administrative assistant may call Michelle Creson in Financial Aid if there are issues.

Calendar

In general, the teaching institution will design the class schedule to accommodate the student. Classes taught live on the MSU campus by S&T should follow the MSU calendar. Classes offered as distance education from the Missouri S&T campus will follow the Missouri S&T calendar.

Final Exam Schedule

The Cooperative Engineering program will work out a final exam schedule each semester for the program. Typically for courses taught by faculty in Springfield and offered only to student in Springfield, the course will follow the MSU final exam schedule. Typically for courses taught by S&T faculty who are not located in Springfield, the course will follow the Missouri S&T final exam schedule. Conflicts and other issues will be negotiated with the faculty.

Students Earning Degrees for MSU and Missouri S&T

Some students will choose to earn both a diploma from S&T and a diploma from MSU. MSU will work with interested students.

Add/Drop Policy

The MSU refund schedule will be followed for all courses.

Academic and Scholastic Actions

Scholastic actions will be taken at the close of the semester based on the institution(s) through which students take classes that semester. Students taking courses through both institutions during the same semester may be placed on scholastic action by one or both institutions.

Transcripts

Courses will be transcribed by the institution that is offering the course. At the end of each semester, each institution will provide the other with an official transcript for any course work completed on their respective campuses by Cooperative Engineering Program students. Such transcripts will be used to evaluate transfer credit, update the student's degree audit, and determine compliance with MSU satisfactory academic progress regulations for students receiving financial aid.

Diploma

Students completing a degree through the Cooperative Engineering Program will be issued a Missouri S&T diploma that includes the notation, "Missouri University of Science and Technology in cooperation with Missouri State University."

Commencement

Students will apply for graduation at Missouri S&T using the standard process. It will be the student's option to participate in either the S&T and/or the MSU commencement ceremony. The student should make arrangements with the Missouri S&T Bookstore to obtain appropriate regalia for the commencement ceremony. Honor cords must be purchased from the Missouri S&T bookstore. The Cooperative Engineering Program office will obtain diploma covers, medallions and honor cords for students participating in the MSU commencement ceremony.

Billing and Fees

Residency for fee purposes

A student's residency classification for tuition purposes will be determined by Missouri State based on the Coordinating Board for Higher Education's "Determination of Student Residency" policy (<https://www.sos.mo.gov/cmsimages/adrules/csr/current/6csr/6c10-3.pdf>). The Cooperative Engineering Office at Missouri State will inform Missouri S&T regarding the residency classification of students in the program. Students who wish to appeal their residency classification may do by submitting a residency reclassification application to Missouri State (<https://www.missouristate.edu/registrar/338838.htm>).

Fees

Fees for MSU courses will be set at MSU resident and non-resident rates. Fees for Missouri S&T courses (including placeholder courses) will be set at Missouri S&T resident and non-resident rates and will include required Missouri S&T supplemental course fees and IT fees but not Missouri S&T student health and activity fees. In accordance with the Memorandum of Understanding, MSU will collect all fees from the student and distribute to Missouri S&T the tuition and fee revenues collected for S&T courses. MSU will charge its own student services fees for Cooperative Program students, who will in turn have access to services on the MSU campus. The MSU refund schedule will be followed for all courses.

Placeholder Courses

When a cooperative program student enrolls in Missouri S&T courses, Missouri S&T will process the student as a "third party sponsorship." MSU will serve as an external party to pay the fees and tuition of the student. Missouri S&T will send a bill electronically through the student's Missouri S&T e-mail to inform them of the fees that have been assessed and that they are being billed to a third party sponsor which is MSU. The bill will have a statement about the Missouri S&T/MSU Cooperative Engineering Program and will specify that the student owes \$0 dollars. Missouri S&T will send a final 4th week enrollment and appropriate tuition/fee cost bill to MSU each semester after the last date to receive a refund is past.

Fee Schedules

The Missouri S&T Cashier's Office will provide the MSU Registrar Office with the current Missouri S&T resident and non-resident fee structure.

Tuition and Fees Collected

When a cooperative program student enrolls in Missouri S&T courses, Missouri S&T will process the student as a "third party sponsorship." MSU will serve as an external party to pay the fees and tuition of the student. Missouri S&T will send a bill electronically through the student's Missouri S&T e-mail to inform them of the fees that have been assessed and that they are being billed to a third party sponsor which is MSU. The bill will have a statement about the Missouri S&T/MSU Cooperative Engineering Program and will specify that the student owes \$0 dollars.

Missouri S&T will bill students directly for items charged at the Missouri S&T bookstore, Missouri S&T parking tickets, or other non-academic types of charges to Missouri S&T.

When Missouri S&T Transfer Scholarships are Greater than Missouri S&T Tuition

Occasionally a student may be enrolled primarily for Missouri State University courses with only one or two Missouri S&T courses. In such cases it is possible that the Missouri S&T transfer scholarship or other Missouri S&T scholarships will be greater than the Missouri S&T tuition. In such cases, Missouri S&T will bill MSU a negative amount for that student. Missouri State University will apply the full scholarship amount to the student's total bill thus awarding the full scholarship amount to the student.

Missouri S&T Courses offered in Springfield and Taught by MSU Faculty

When an engineering course is taught by one of the MSU faculty, the education fee and engineering supplemental fee will be divided evenly between the two universities. Missouri S&T will keep all of the IT fees. Missouri S&T scholarships and other Missouri S&T scholarships are deducted from Missouri S&T's portion of the funding. MSU does not pay any of the cost of Missouri S&T scholarships out of their portion of the funding.

Missouri S&T Courses Taught by Missouri S&T Faculty

All tuition (minus Missouri S&T scholarships) will be returned to Missouri S&T.

Billing and Tuition Reimbursement

Missouri S&T Cashier's office will bill MSU Financial Services for all of the education fees, engineering supplemental fees and IT fees, minus the Missouri S&T scholarships. MSU will pay the full amount to Missouri S&T. MSU College of Natural and Applied Science will bill Missouri S&T Dean of Engineering and Computing for reimbursement of half of the education fees and engineering supplementary fees for courses taught by MSU faculty. Missouri S&T will pay MSU the reimbursement.

Scholarships and Financial Assistance

Federal Financial Aid

MSU will be the "home institution." When students are enrolled in Missouri S&T courses, MSU will enter a placeholder course for the equivalent hours of the Missouri S&T course so that the students can be considered for financial aid. Any add/drop activity for a cooperative student at Missouri S&T will be reported to the MSU Office of the Registrar in a timely manner. If the student withdraws completely or drops a class that the student never attended, the MSU Office of Student Financial Aid must be notified. The Cost of Attendance (COA) utilized for financial aid calculations and awarding will be determined initially using MSU costs. MSU's cost of attendance will allow students to receive full federal aid levels. Students who wish to seek additional alternative loans may contact the Office of Student Financial Aid for an adjustment based on S&T's COA. Students will be required to meet MSU satisfactory academic progress (SAP) requirements. Students in this program will be reviewed for SAP following standard procedures at the end of each semester.

Missouri State University New Freshmen Scholarships

Since this is a cooperative program, Missouri State University will fund the first two years of scholarships (or for the first 60 credit hours, whichever occurs first) consistent with Missouri State scholarship levels. Missouri S&T will fund transfer scholarships for eligible candidates who meet S&T transfer scholarship policy per process outlined below the last two years of scholarships for traditional students who start at Missouri State University as freshmen. Students who receive one of the Missouri State University New Freshmen Scholarships will receive two years of funding from the scholarship. After two years students will lose their scholarship. Students who receive a non-resident fee waiver from MSU may not receive a non-resident fee waiver from Missouri S&T.

Missouri S&T Transfer Scholarships

Cooperative Engineering Program students may be eligible for Missouri S&T Transfer Assistance Program scholarships beginning in the first regular academic semester following the semester in which they complete 60 transferrable, college-level credits. Scholarship review will be coordinated between the Cooperative Engineering Program office and Missouri S&T Transfer Admissions. Following each semester, the Cooperative Engineering Program office will provide Missouri S&T Transfer Admissions with a list of Cooperative Engineering Program students who have reached the 60-hour minimum.

Eligibility Criteria: Students must meet all criteria.

- Student must be an admitted Cooperative Engineering Program student.
- Student must be a regularly-admitted Missouri S&T student.
- Official transcripts for all completed college-level course work must be on record at Missouri S&T.
- Missouri S&T degree-audit (CAPS) must reflect a minimum of 60 credits and a minimum 3.0 cumulative grade point average.
- Missouri S&T students who have entered the program through the "former student returning" process are not eligible for transfer scholarships.
- 2nd BS students are not eligible for transfer scholarships.

Eligible students will be awarded scholarships at the resident level as outlined in Missouri S&T Transfer Assistance Program Scholarship guidelines.

Bright Flight

MSU will administer all five years.

Other Processes

Textbooks

Students may purchase or order Missouri S&T textbooks from the S&T bookstore and MSU textbooks from the MSU bookstore. Alternatively, students may obtain books online or through other sources. Textbook requirements will be available to students through the Missouri S&T bookstore or the MSU bookstore for courses taught through their respective campuses.

Veteran Administration Students

Missouri State University will be considered the "parent" school and will certify hours taken at both Missouri State and Missouri S&T to the Veteran Certifying Official. The VA understands this is a cooperative degree program.

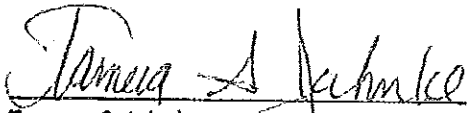
International Students

MSU will admit F1/J1 students to *Bachelor of Science/Scientiae Baccalaureus (BS, SB)*, as defined in our I-17, based on admission requirements determined through cooperative program. Prospective students would receive our immigration document and remain on our campus through duration of the program. We would maintain immigration documents unless requested by S&T to transfer immigration document to their institution. We do not recommend transferring immigration documents, unless a student is going to physically switch campuses.

Athletic Eligibility

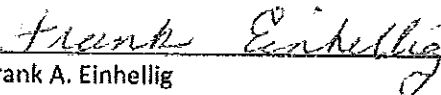
NCAA regulations prohibit MSU student athletes from participating in this program.

Signature Page



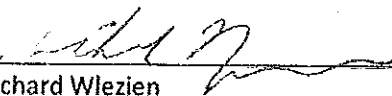
Tamera S. Jahnke
Dean of College of Natural and Applied Science
Missouri State University

9/27/18
Date




Frank A. Einhellig
Provost
Missouri State University

Sept 27, 2018
Date



Richard Wlezien
Vice Provost and Dean of College of Engineering and Computing
Missouri University of Science and Technology

26 Sep 18
Date



Robert J. Marley
Provost
Missouri University of Science and Technology

26 Sep 2018
Date

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is made and entered into this 21st day of December, 2016 by and between The Curators of the University of Missouri, a public corporation, on behalf of Missouri University of Science and Technology, hereinafter referred to as "S&T" and Board of Governors of Missouri State University hereinafter referred to as "MSU."

WITNESSETH:

WHEREAS engineering firms and other employers of engineers in the Springfield, Missouri area have articulated the need for more qualified engineers; and

WHEREAS these employers have responded that there is a particular demand for electrical, civil, and mechanical engineers who have graduated from an Accreditation Board for Engineering and Technology accredited institution; and

WHEREAS it is recognized by these employers that S&T located within 100 miles of Springfield, Missouri offers premier and accredited programs in electrical, civil, and mechanical engineering; and

WHEREAS MSU already offers a pre-engineering curriculum required by S&T and MSU faculty offer some of the engineering-based courses; and

WHEREAS the instructional costs to develop and deliver degree programs in electrical, civil, and mechanical engineering are high; and

WHEREAS S&T and MSU are desirous of cooperating in establishing degree programs where significant coursework in electrical, civil, and mechanical engineering can occur on the campus of MSU.

NOW THEREFORE, S&T and MSU are committed to develop programs in electrical, civil, and mechanical engineering, hereafter referred to as the "Cooperative Engineering Programs", designed to leverage the resources and faculty of both institutions to meet the regional needs for engineering in a cost-efficient manner in the Springfield, Missouri area. The parties agree as follows:

1. The degrees in civil and electrical engineering would be offered by S&T and will be the same degree programs as are already offered on the Rolla campus. The mechanical engineering degree will be offered by S&T and will be a bachelor of science degree titled "Missouri S&T Mechanical Engineering -- Springfield". All diplomas will read "in cooperation with Missouri State University."
2. The programs in the Cooperative Engineering Programs offered on the MSU campus or such other locations as approved by S&T will be designed to meet Accreditation Board for Engineering and Technology accreditation standards. S&T will have responsibility for implementation of standards used to identify faculty, curriculum, facilities, pedagogy and graduation requirements in the design and the delivery of learning objectives, coursework and educational outcomes in electrical, civil, and mechanical engineering.
3. It is the intent of both S&T and MSU to deliver on the MSU campus all courses offered during the first two years of the program and as many of the major courses in the third and fourth years of the engineering curricula as resources and accreditation standards permit.


Some engineering major courses will be taught at MSU by S&T faculty with the use of distance learning technology and/or face-to-face, and some will be taught by MSU faculty. Nonetheless, some laboratory-based courses may need to be delivered at S&T.

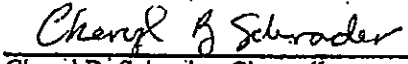
4. Student support services will be provided by MSU, and S&T will provide as necessary an on-site director for advising and coordination for those students who have been formally admitted into the engineering programs.
5. All entering students into the Cooperative Engineering Programs must first satisfy the admission requirements as described in the MSU Course Catalog. The admission into the Cooperative Engineering Programs will be made by S&T, in consultation with MSU, according to the admission criteria described in the S&T Course Catalog. S&T and MSU will consult with and then notify each other regarding any change in admission requirements.
6. The tuition of the pre-engineering and elective courses currently offered by MSU will be set at MSU rates. The list of major courses for degrees in the Cooperative Engineering Programs will be determined by S&T, and the tuition rate for these courses will be set at S&T rates. MSU will collect tuition and fees from all the students enrolled in the pre-engineering and the Cooperative Engineering Programs offered at MSU. MSU will retain the fees for the pre-engineering and elective courses, and distribute to S&T the tuition and fee revenue collected for the major courses. S&T and MSU will develop annually an agreement about teaching assignments and reimbursement to the campus for any MSU faculty who teach the engineering major courses.
7. The department chairs of the applicable departments at S&T will provide administrative oversight of the respective programs. The department chairs will form coordinating committees comprised of appropriate faculty and administrators from both universities, along with the on-site program director. The MSU on-site program coordinator and engineering faculty hired by MSU will also have appropriate reporting lines within the MSU system. The coordinating committees will meet regularly via face-to-face meetings and/or conference calls. These committees, which will be chaired by the department chairs and a liaison from the MSU central administration, will develop procedures and processes to administer the cooperative programs. The coordinating committee for a specific program will also be charged to mediate disputes that may arise in the operation of the engineering program. In the event that the coordinating committee fails to resolve a dispute, the disputed matter should be forwarded to the Provosts of S&T and MSU for resolution.
8. To ensure continued viability of the program, S&T and MSU will jointly review the program every three years and will include the relevant information resulting from that review in the departmental self-studies required for Accreditation Board for Engineering and Technology accreditation. The Chancellor of S&T and the President of MSU shall designate representatives from their respective institutions to be responsible for the review. Review of the Cooperative Engineering Programs should include information regarding student enrollment, student persistence, the number of degrees granted, the average number of years required to complete the degrees, assessment of learning outcomes and graduation degree requirements, as well as any additional evidence that can be used to determine program improvement or program viability.
9. Neither S&T nor MSU can predict the future, and circumstances may arise in which it would be in the best interest of either S&T or MSU to discontinue its participation in the Cooperative Engineering Programs. If either party to this Memorandum of Understanding desires to terminate its involvement, both MSU and S&T will commit to provide access over a reasonable time period, not to exceed two (2) academic years, to permit currently enrolled

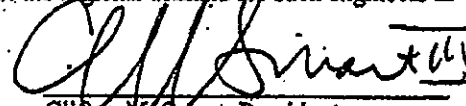
students to complete a degree in the cooperative engineering program.

10. S&T and MSU do acknowledge that this Memorandum of Understanding establishes a general framework. It sets forth the general intent of each to complete the design of Cooperative Engineering Programs. Both institutions acknowledge that the completion of the programmatic design is conditioned upon the receipt of funds to develop the appropriate distance education technology to deliver laboratory based courses in the Cooperative Engineering Programs and to appraise and begin appropriate renovations of existing laboratories at MSU to accommodate the delivery of other laboratory based courses in the Cooperative Engineering Programs. Moreover, the mutual commitment of MSU and S&T to cooperatively deliver the programs is conditioned on the receipt of ongoing state funding allocated specifically to cover the additional programmatic costs to deliver the programs. At any time prior to the receipt of sufficient planning and assurance of intent to provide ongoing state financial support for the proposed programs in the Cooperative Engineering Programs, the President of MSU or the President of the UM System upon the recommendation of the Chancellor of S&T may exercise the option to void this agreement by written notice, and the parties shall be deemed released from any future obligations.
11. MSU and S&T agree to maintain the Cooperative Engineering Programs Operations Manual to serve as a more detailed guide for the implementation and the on-going operations of the Cooperative Engineering Programs. The Provosts and Deans will be signatories to this document.

This Memorandum of Understanding is entered into on the day and year written above by the Interim President of the UM System, the Chancellor of Missouri University of Science and Technology and the President of Missouri State University as evidence of the commitment of each to continue to pursue the development of these programs designed to meet the regional demand for such engineers in the Springfield, Missouri area.


Michael A. Middleton, Interim President
The Curators of the University of
Missouri


Cheryl B. Schrader, Chancellor
Missouri University of Science and Technology


Clifton M. Smart, President
Board of Governors of Missouri State
University

