## Memorandum of Understanding Dual-degree Engineering between Emporia State University and Wichita State University

### Introduction

This Memorandum of Understanding (MoU) formalizes dual-degree program opportunities between partnering institutions Emporia State University (ESU) and Wichita State University (WSU). Specifically, the dual-degree (also known as "threeplus-two") program options are between either of two ESU Bachelor of Science (BS) degree majors, mathematics or physics, and selected engineering curricula in the College of Engineering at WSU.

The dual-degree program opportunities enable a student who follows the prescribed plan in conjunction with a departmental advisor to spend three years of full-time study toward the ESU BS degree major, mathematics or physics, followed by two years of full-time study at WSU pursuing course work toward one of several engineering program curricula. Initially, the ESU mathematics major would articulate with aerospace engineering, electrical engineering (with "electronic" or "power" options), industrial/manufacturing engineering (two separate degree options) and mechanical engineering. The ESU physics major is designed to articulate with aerospace, electrical, industrial/manufacturing, and mechanical, but also engineering technology (the renewable energy technology option). Envisioned for subsequent consideration is bioengineering, and potentially others for which this MoU provides the guidelines.

### **Objectives of the Inter-institutional Partnership**

Among the objectives of the partnership are the following:

- To provide additional dual-degree engineering program options for ESU mathematics and physics majors;
- To provide an additional pathway for prospective students to matriculate in a program with the College of Engineering at WSU;
- To provide an established inventory of course equivalents to facilitate the transfer of courses between ESU and WSU, and vice versa;
- To thereby facilitate the transition of students from ESU to WSU;
- To encourage academic and administrative coordination between the partnering universities, and to the exchange of evaluative information on the outcomes of the programs and program students toward the goal of continual improvement at the partnering universities; and
- To address the Science, Technology, Engineering, and Mathematics (STEM) workforce development needs for the desired economic development in the State of Kansas.

# Institutional Expectations

Emporia State University students, mathematics or physics majors, will meet the following ESU departmental and institutional requirements:

- Four semesters in residence at ESU, each semester at the sophomore or higher classification. (Typically a student pursuing the dual-degree program will spend three years in residence, but a four-semester requirement permits a student to transfer credits from another institution.)
- Completion of the ESU general education requirements currently in effect with the exceptions or substitutions previously granted for existing dual-degree programs with engineering-degree-granting universities.
- Completion of the minimum requirements for a BS degree major in mathematics or physics. This is accomplished via courses completed in the three years of attendance at ESU (or inclusive of previous transfer credit), or the "reverse transfer" of appropriate WSU engineering courses (as noted on a student's degree contract filed with the ESU Registrar prior to transfer to WSU) for any major course electives yet-to-be completed.
- Any additional courses as are necessary for the student degree candidate to earn a total of 124 credit hours. (Typically this requirement may be met at the end of the fourth year of full-time dual-degree study for the candidate who follows the prescribed plan, and after the first year at WSU.)

Students in the Wichita State University dual-degree engineering program counterpart sought will meet the WSU degree requirements including:

- General education requirements, both university-wide, and College of Engineering-specified courses that meet WSU general education requirements, e.g., PHIL 385 Engineering Ethics.
- College of Engineering mathematics and natural sciences course and engineering core course requirements for any engineering program sought.
- Departmental requirements specific to the selected engineering curriculum (i.e., the engineering major) sought, including technical electives.
- Three of the six College of Engineering options to fulfill the "Engineer of 2020" expectations consistent with National Academy of Engineering exhortations. And
- Requirements specified by virtue of WSU's College of Engineering accreditation by the Engineering Accreditation Committee of the Accreditation Board for Engineering and Technology (ABET).

The WSU requirements will be met by either transfer of ESU-approved course equivalents or enrollment in the requisite WSU course(s).

The transfer courses applicable to the curricula covered by this Memorandum are specified in the complementing WSU Articulation Agreement and the ESU three-year mathematics and physics major templates that accompany the Memorandum. WSU and ESU will jointly review these prescribed plans every three years, at minimum, and revise them as needed to reflect changes in course requirements.

#### **Program Promotion**

The partnering institutions agree to encourage qualified students to participate in the joint degree program opportunities through advisement and dissemination of information. The ESU advisor(s) will make efforts to maintain a roster of students intending to pursue a counterpart engineering program at WSU, and share that as requested. Further, it is anticipated that a representative of the WSU College of Engineering will have the opportunity to present program information to the aspiring dual-degree engineering program students enrolled in the ESU Introduction to Engineering course offered in fall semesters.

### **Confidentiality of Student Information and Records**

ESU and WSU administrators and faculty possessing a legitimate need to know concerning current or prospective students' program-related information will share that. Pursuant to that, ESU and WSU faculty, staff, and/or administrators agree to keep current or prospective student records private per Federal Educational Rights to Privacy Act (FERPA) regulations. FERPA guidelines will pertain consistent with the official responsibilities of the ESU and WSU faculty, staff, and/or administrators involved in the administration and delivery of the respective institutional partner programs.

Any information garnered pursuant to the Assessment of Program Outcomes germane to the respective programs of the university partners will be shared, also. This may include formative and summative assessments, but particularly findings from exit surveys and/or exit interviews administered at the time of completion of a degree program at the respective universities.

### On Behalf of the Partnering Institutions,

Date

Michael D. Shonrock President, Emporia State University

David P. Cordle Provost, Emporia State University

October 15, 2013

John W. Bardo President, Wichita State University

Anthony J Vizzini Vice President for Academic Affairs Wichita State University