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# Dual Degree Agreement for College of Engineering with Tennessee Wesleyan

University of Tennessee, Knoxville

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November 21, 2019

Dr. Belle S. Wheelan President SACS Commission on Colleges 1866 Southern Lane Decatur, GA 30033

## **Re:** Dual Degree Program in Engineering with Tennessee Wesleyan

Dear Belle,

Please accept this letter as notification of the institution's plan to partner with Tennessee Wesleyan University (TWU) to offer dual Bachlor of Science degrees in four engineering programs, beginning January 2020.

The attached signed Memorandum of Understanding (MOU) outlines how students will matriculate in the liberal arts for two years at TWU, then complete two years in one of the following engineering programs at University of Tennessee, Knoxville (UTK): Civil Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering. The total credit hours required for the degree ranges from 132 to 137, based on the engineering program the student selects. Upon completion of all requirements in the selected program of study as outlined in the MOU, the student will be awarded a Bachelor of Science degree in Engineering Science from Tennessee Wesleyan University and a Bachelor of Science degree in the engineering program from the University of Tennessee, Knoxville.

Contacts for the program:

David Ashe, PhD Dual Degree Program Coordinator Tennessee Wesleyan University 204 E. College Street Athens, TN 37303 Dr. Ozlem Kilic Associate Dean Tickle College of Engineering University of Tennessee, Knoxville 101 Perkins Hall Knoxville, TN 37996 November 21, 2019 Page 2 of 2

Note that the original contact for The University of Tennessee, Knoxville, Dr. Masood Parang, retired in July after the MOU was signed. Dr. Ozlem Kilic was hired in the position, and she will serve as the contact.

Please contact me with any questions you may have regarding this agreement.

Sincerely,

Heather

Heather G. Hartman SACSCOC Liaison

Attachment

Cc: Dr. David Manderscheid, Provost and Senior Vice Chancellor, UTK
Dr. Robert J. Hinde, Vice Provost for Academic Affairs, UTK
Dr. Dr. Ozlem Kilic, Associate Dean, Tickle College of Engineering, UTK
Dr. Grant Willhite, Vice President of Academic Affairs, TWU

### MEMORANDUM OF UNDERSTANDING FOR A DUAL DEGREE PROGRAM

#### between

### Tennessee Wesleyan University and The Tickle College of Engineering at The University of Tennessee

The purpose of this agreement is to establish a Dual Degree Program between Tennessee Wesleyan University (hereinafter referred to as TWU) and The Tickle College of Engineering at The University of Tennessee, Knoxville (hereinafter referred to as TCE) leading to a Bachelor of Science in Engineering Science degree from TWU and a Bachelor of Science in one of four (Civil, Industrial, Electrical, and Mechanical) engineering programs from TCE. Under this agreement, a student will spend approximately four semesters at TWU. The students will then transfer to TCE. Students will be eligible for admission to their selected engineering program at TCE if they meet the general entrance requirements of both TCE and the department of their major and upon recommendation by TWU. The course equivalency tables for each of the four programs are attached. Upon completion of the student's TCE degree, the student will submit his/her transcripts to TWU at which time the student will be awarded a bachelor's degree from TWU.

TWU designates Liaison Officer, Dr. David J. Ashe, 204 College Street, Athens, TN 37303, to make prospective students aware of the program and ensure that the program is advertised in the catalog and other promotional literature. The Liaison Officer will also notify his or her counterpart at the University of Tennessee, six months in advance, of the relevant curriculum changes that would affect the administration of the program.

The Tickle College of Engineering (TCE) at the University of Tennessee, Knoxville designates Associate Dean for Academic and Student Affairs at TCE, Dr. Masood Parang, 101 Perkins Hall, University of Tennessee, Knoxville, TN 37996, as Liaison Officer to coordinate the program at UTK. This officer will provide students in the program with UTK catalogs, admission applications, scholarship applications, and descriptive material for UTK engineering majors. The UTK Liaison Officer will also notify his or her counterpart at TWU, six months in advance, of relevant curriculum changes that would affect the administration of this program.

### 1. Dual Degree Program Description

- 1.1 Students entering TWU must meet all the standards and follow the procedures and policies of the current TWU academic catalog.
- 1.2 Students entering TCE must meet the standards and follow the procedures and policies as outlined in the University of Tennessee undergraduate catalog in effect upon entrance into TCE.
- 1.3 Participating students shall complete the course work presented in Appendix 1 at TENNESSEE WESLEYAN for the first two years prior to transferring to TCE.
- 1.4 Participating students shall complete the requisite course work for an engineering degree at TCE.
- 1.5 Upon completion of the engineering degree at TCE, participating students will also be considered to have satisfied the requirements for the Bachelor of Science in Engineering Science at TWU.

#### 2. Admission Procedures

- 2.1 In order to be admitted into the Dual Degree Program at TCE, the student (hereinafter transferring student) must complete the course work as outlined in Appendix 1.
- 2.2 The transferring student must meet the minimum general entrance requirements of both TCE and the department of their major that are in effect at the time of matriculation.
- 2.3 The transferring student must submit all application materials required to the Office of Admissions at TCE in the manner and by the deadlines established for regular transfer students.
- 2.4 Any dual degree seeking student admitted to TCE who does not complete the program requirements for a TCE engineering degree will be afforded the opportunity to be readmitted to TWU and given an opportunity to complete a degree program.

### 3. Program Administration and Reporting

- 3.1 Each institution will appoint a Dual Degree Liaison Officer to act as a liaison between the two institutions, monitor student progress, and evaluate and improve the program as needed. The Dual Degree Liaison Officers will evaluate the curriculum annually for changes that impact degree requirements and transfer policies.
- 3.2 Each institution will appoint an advisor for participants. TCE advisors will meet with prospective transfers in at least the semester prior to matriculating to TCE.
- 3.3 Each institution will include the program in institutional publications as appropriate.
- 3.4 Each institution will notify the other institution in a timely manner of any significant changes in the program of study.
- 3.5 TWU will recruit and otherwise identify interested students and provide a list of these students to TCE in the fall semester of the students' second year.
- 3.6 TCE will provide names of prospective graduates to TWU prior to the end of each term. It may be necessary for the prospective graduates to sign a FERPA release in order for TCE to provide this information to TWU.
- 3.7 TCE will notify TWU of any changes to admission requirements.
- 3.8 Each institution maintains instructional and curricular control of the courses offered at the institution. Each institution may, following evaluation and in collaboration with the partner institution, approve any necessary curricular changes through the institution's appropriate method for curricular changes.

#### 4. Termination/Modification

This agreement will be in effect from August 1, 2019 until July 31, 2024. This memorandum of understanding may be terminated by either party upon six (6) months written notice without cause. This memorandum of understanding may be terminated by either party at any time for cause. Unless terminated, it will be automatically renewed, subject to any amendment or modification, which may be introduced in writing and signed by the parties at any time by mutual agreement.

Signatures of Authorized Representatives at Cooperating Institutions

Tennessee Wesleyan University

The University of Tennessee, Knoxville

Harley Knowler

Dr. Harley Knowles President

Date

Mayne J. Davis Date

Dr. Wayne T. Davis Interim Chancellor

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## APPENDIX 1: DUAL DEGREE ADMISSION REQUIREMENTS AND CURRICULUM

### Course Equivalencies for the UT Tickle College of Engineering

### and Tennessee Wesleyan University

Tennessee Wesleyan University	UTK Equivalent
E 101 Composition 1	English 101
E 102 Composition 2	English 102
C 150 General Chemistry 1	Chemistry 120
C 152 General Chemistry 2	Chemistry 130
M 181 Calculus 1	Math 141
M 182 Calculus 2	Math 142
M 283 Multivariable Calculus	Math 241
M 371 Ordinary Differential Equations	Math 231
P 262 Physics 1	EF LD petition for EF 151
P 264 Physics 2	EF LD petition for EF 152
M 431 Numerical Analysis (Matlab)	Math 371 petition for EF 105
M 431 Numerical Analysis (Matlab)	Math 371 petition for EF 230
B 180 Biology OR B 182 Biology	Science Elective (one course needed)
EC 251 AND EC 252 Macro AND	Econ 213 and 211 for Economics 201 <sup>1</sup>
Microeconomics	
ENR 201 Statics	Mechanical Engineering 202

### Dual Degree Program Agreement for CIVIL ENGINEERING

Other approved course equivalencies can be found on the University of Tennessee Registrar's website. The list should be consulted as students transition from Tennessee Wesleyan University to the University of Tennessee, Knoxville to ensure credit hours are counted towards the UT degree.

Completion of the general education courses at Tennessee Wesleyan University will meet most general education requirements of the UT Tickle College of Engineering. Because of the variation in individual student programs, some courses require general education petitions, for which a syllabus is required.

### Notes:

<sup>1</sup>Economics 201 is required in Aerospace, Biomedical, Civil, Industrial, Mechanical, and Nuclear. Economics is a Social Science general education course.

<sup>2</sup>General Education requirements include 2 courses from Arts & Humanities; 2 courses from Culture & Civilizations; and 1 course from Social Sciences (in addition to Econ 201). An additional 15 credit hours to the total shown above will be accepted by the University of Tennessee, Knoxville.

Transfer students, including internal University of Tennessee, Knoxville, transfers, must meet the minimum requirements stated below to be considered for admission to a major within the college. These minimum standards for consideration do not guarantee being admitted to the major. The final admission decision for the major resides with the department head or designee.

- Must have earned a minimum 2.8 cumulative average and a C or better in each of these specific courses, or their equivalent: <u>ENGL 101\*</u>, <u>CHEM 120\*</u> (for Computer Science students: <u>COSC</u> <u>102</u> and <u>COSC 130</u> or equivalents), and <u>MATH 141\*</u> (and subsequent courses in the three sequences, if taken).
- If the student has completed any physics course, he/she must have earned a grade of C or better.
- The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses, or failures may result in denial.

Any University of Tennessee, Knoxville, student desiring association with one of the departments in the Tickle College of Engineering should go to the Engineering Advising Office. An advising session is held with the major items of consideration being the same as for external transfer students.

### Course Equivalencies for the UT Tickle College of Engineering

### and Tennessee Wesleyan University

### Dual Degree Program Agreement for ELECTRICAL ENGINEERING

Tennessee Wesleyan University	UTK Equivalent
E 101 Composition 1	English 101
E 102 Composition 2	English 102
C 150 General Chemistry 1	Chemistry 120
C 152 General Chemistry 2	Chemistry 130 (petition for Technical Elective)
M 181 Calculus 1	Math 141
M 182 Calculus 2	Math 142
M 283 Multivariable Calculus	Math 241
M 371 Ordinary Differential Equations	Math 231
M 351 Linear Algebra	Math 251
P 262 University Physics 1	EF LD petition for EF 151
P 264 University Physics 2	EF LD petition for EF 152

ENID 202 Demantica	Mechanical Engineering 231 (petition for
ENR 202 Dynamics	Mechanical Engineering 251 (petition for
	Engineering Technical Elective)

Other approved course equivalencies can be found on the University of Tennessee Registrar's website. The list should be consulted as students transition from Tennessee Wesleyan University to the University of Tennessee, Knoxville to ensure credit hours are counted towards the UT degree.

Completion of the general education courses at Tennessee Wesleyan University will meet most general education requirements of the UT Tickle College of Engineering. Because of the variation in individual student programs, some courses require general education petitions, for which a syllabus is required.

Notes:

<sup>1</sup>General Education requirements include 2 courses from Arts & Humanities; 2 courses from Culture & Civilizations; and 2 courses from Social Sciences. An additional 18 credit hours to the total shown above will be accepted at the University of Tennessee, Knoxville.

Transfer students, including internal University of Tennessee, Knoxville, transfers, must meet the minimum requirements stated below to be considered for admission to a major within the college. These minimum standards for consideration do not guarantee being admitted to the major. The final admission decision for the major resides with the department head or designee.

- Must have earned a minimum 2.8 cumulative average and a C or better in each of these specific courses, or their equivalent: <u>ENGL 101</u>\*, <u>CHEM 120</u>\* (for Computer Science students: <u>COSC 102</u> and <u>COSC 130</u> or equivalents), and <u>MATH 141</u>\* (and subsequent courses in the three sequences, if taken).
- If the student has completed any physics course, he/she must have earned a grade of C or better.
- The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses, or failures may result in denial.

Any University of Tennessee, Knoxville, student desiring association with one of the departments in the Tickle College of Engineering should go to the Engineering Advising Office. An advising session is held with the major items of consideration being the same as for external transfer students.

### Course Equivalencies for the UT Tickle College of Engineering

### and Tennessee Wesleyan University

### Dual Degree Program Agreement for INDUSTRIAL ENGINEERING

Tennessee Wesleyan University	UTK Equivalent
E 101 Composition 1	English 101
E 102 Composition 2	English 102
C 150 General Chemistry 1	Chemistry 120
M 181 Calculus 1	Math 141
M 182 Calculus 2	Math 142
M 283 Multivariable Calculus	Math 241
M 371 Ordinary Differential Equations	Math 231
M 351 Linear Algebra	Math 251 for Math 200
P 262 Physics 1	EF LD petition for EF 151
P 264 Physics 2	EF LD petition for EF 152
M 431 Numerical Analysis (Matlab)	Math 371 petition for EF 105
M 431 Numerical Analysis (Matlab)	Math 371 petition for EF 230 (petition with ME 202 for Engineering Science Elective)
EC 251 AND EC 252 Macro AND	Econ 213 and Econ 211 for Economics 201 <sup>1</sup>
Microeconomics	
ENR 201 Statics	Mechanical Engineering 202 (petition with EF 230 for
	Engineering Science Elective)
ENR 202 Dynamics	Mechanical Engineering 231 (petition for Engineering
	Science Elective)

Other approved course equivalencies can be found on the University of Tennessee Registrar's website. The list should be consulted as students transition from Tennessee Wesleyan University to the University of Tennessee, Knoxville to ensure credit hours are counted towards the UT degree.

Completion of the general education courses at Tennessee Wesleyan University will meet most general education requirements of the UT Tickle College of Engineering. Because of the variation in individual student programs, some courses require general education petitions, for which a syllabus is required.

### Notes:

<sup>1</sup>Economics 201 is required in Aerospace, Biomedical, Civil, Industrial, Mechanical, and Nuclear. Economics is a Social Science General Education course.

<sup>2</sup>General Education requirements include 2 courses from Arts & Humanities; 2 courses from Culture & Civilizations; and 1 course from Social Sciences (in addition to Econ 201). An additional 15 credit hours to the total shown above will be accepted at the University of Tennessee, Knoxville.

Transfer students, including internal University of Tennessee, Knoxville, transfers, must meet the minimum requirements stated below to be considered for admission to a major within the college. These minimum standards for consideration do not guarantee being admitted to the major. The final admission decision for the major resides with the department head or designee.

- Must have earned a minimum 2.8 cumulative average and a C or better in each of these specific courses, or their equivalent: <u>ENGL 101</u>\*, <u>CHEM 120</u>\* (for Computer Science students: <u>COSC 102</u> and <u>COSC 130</u> or equivalents), and <u>MATH 141</u>\* (and subsequent courses in the three sequences, if taken).
- If the student has completed any physics course, he/she must have earned a grade of C or better.
- The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses, or failures may result in denial.

Any University of Tennessee, Knoxville, student desiring association with one of the departments in the Tickle College of Engineering should go to the Engineering Advising Office. An advising session is held with the major items of consideration being the same as for external transfer students.

### Course Equivalencies for the UT Tickle College of Engineering

### and Tennessee Wesleyan University

### Dual Degree Program Agreement for MECHANICAL ENGINEERING

Tennessee Wesleyan University	UTK Equivalent
E 101 Composition 1	English 101
E 102 Composition 2	English 102
C 150 General Chemistry 1	Chemistry 120
M 181 Calculus 1	Math 141
M 182 Calculus 2	Math 142
M 283 Multivariable Calculus	Math 241
M 371 Ordinary Differential Equations	Math 231
M 351 Linear Algebra	Math 251
P 262 Physics 1	EF LD petition for EF 151
P 264 Physics 2	EF LD petition for Physics 231 <sup>1</sup>
M 431 Numerical Analysis (Matlab)	Math 371 petition for EF 105
M 431 Numerical Analysis (Matlab)	Math 371 petition for EF 230
EC 251 AND EC 252 Macro AND	Econ 213 and 211 for Economics 201 <sup>2</sup>
Microeconomics	
ENR 201 Statics	Mechanical Engineering 202
ENR 202 Dynamics	Mechanical Engineering 231

Other approved course equivalencies can be found on the University of Tennessee Registrar's website. The list should be consulted as students transition from Tennessee Wesleyan University to the University of Tennessee, Knoxville to ensure credit hours are counted towards the UT degree.

Completion of the general education courses at Tennessee Wesleyan University will meet most general education requirements of the UT Tickle College of Engineering. Because of the variation in individual student programs, some courses require general education petitions, for which a syllabus is required.

### Notes:

<sup>1</sup>Mechanical Engineering students will use Physics 264 from Wesleyan for Physics 231. Students will take EF 152 at UTK (taught fall, spring and summer terms).

<sup>2</sup>Economics 201 is required in Aerospace, Biomedical, Civil, Industrial, Mechanical, and Nuclear. Economics is a Social Science General Education course.

<sup>3</sup>General Education requirements include 2 courses from Arts & Humanities; 2 courses from Culture & Civilizations; and 1 course from Social Sciences (in addition to Econ 201). An additional 15 credit hours to the total shown above will be accepted at the University of Tennessee, Knoxville.

Transfer students, including internal University of Tennessee, Knoxville, transfers, must meet the minimum requirements stated below to be considered for admission to a major within the college. These minimum standards for consideration do not guarantee being admitted to the major. The final admission decision for the major resides with the department head or designee.

- Must have earned a minimum 2.8 cumulative average and a C or better in each of these specific courses, or their equivalent: <u>ENGL 101\*</u>, <u>CHEM 120\*</u> (for Computer Science students: <u>COSC 102</u> and <u>COSC 130</u> or equivalents), and <u>MATH 141\*</u> (and subsequent courses in the three sequences, if taken).
- If the student has completed any physics course, he/she must have earned a grade of C or better.
- The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses, or failures may result in denial.

Any University of Tennessee, Knoxville, student desiring association with one of the departments in the Tickle College of Engineering should go to the Engineering Advising Office. An advising session is held with the major items of consideration being the same as for external transfer students.