## Transfer Requirements and Equivalencies into the MSOE AAS-EET to BSEE Transfer Pathway

MSOE: AAS-EET to BSEE Transfer Pathway in the BS in Electrical Engineering program Madison: AAS-EET Associate of Applied Science in Electrical Engineering Technology

1. COM 1001 College Writing 2. COM 2001 Writing for STEM Disciplines 3. MTH 1110 Calculus I 4. MTH 1120 Calculus II 5. General Education elective <sup>b</sup> (for PSY 3004; Curiosity CLO) 6. General Education elective <sup>b</sup> (Diversity CLO) 7. PHY 1110 Physics I Mechanics and Thermodynamics 8. ELE 1000 Introduction to EE 10-605-112 QR 10-605-270 9. ELE 2001 Electric Circuits I 0R 10-605-112 AND 10-662-121, 0R 10-605-113 AND 10-605-113 AND 10-605-115 AND 10-605-115 AND 10-605-116 Correction	<b>MSOE Course Numbers and Names</b>	Madison Course Numbers <sup>a</sup>
3. MTH 1110 Calculus I 4. MTH 1120 Calculus II 5. General Education elective <sup>b</sup> (for PSY 3004; Curiosity CLO) 6. General Education elective <sup>b</sup> (Diversity CLO) 7. PHY 1110 Physics I Mechanics and Thermodynamics 8. ELE 1000 Introduction to EE 10-605-112 OR 10-605-270 9. ELE 2001 Electric Circuits I 10-605-112 & -114 AND 10-662-105, OR 10-605-270 AND 10-662-121, OR 10-662-121 AND 10-662-105 COR 10-662-121 AND 10-662-121 COR 10-605-173 AND 10-605-174 AND 10-662-120 COR 10-605-174 AND 10-662-120 COR 10-605-174 AND 10-662-121 COR	1. COM 1001 College Writing	10-801-195
4. MTH 1120 Calculus II 20-804-232  5. General Education elective <sup>b</sup> (for PSY 3004; Curiosity CLO) 10-809-199  6. General Education elective <sup>b</sup> (Diversity CLO) none <sup>c</sup> 7. PHY 1110 Physics I Mechanics and Thermodynamics 20-806-223  8. ELE 1000 Introduction to EE 10-605-112 <b>QR</b> 10-605-270  9. ELE 2001 Electric Circuits I 0R 10-605-270 AND 10-662-105, OR 10-605-270 AND 10-662-121, OR 10-662-121 AND 10-662-221 <sup>d</sup> 10-605-113 AND 10-662-121 AND 10-662-221 <sup>d</sup> 10-605-115 AND 10-662-105 <sup>c</sup> OR 10-662-121 <sup>c</sup> , AND 10-662-106 <sup>c</sup> 11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 2801 Bridge Digital Design & Procedural Programming 10-662-120  12. ELE 3401 Electric Power and Machines 10-662-121 AND 10-662-221  13. Technical Elective <sup>b</sup> 10-605-178	2. COM 2001 Writing for STEM Disciplines	10-801-197
5. General Education elective <sup>b</sup> (for PSY 3004; Curiosity CLO) 6. General Education elective <sup>b</sup> (Diversity CLO) 7. PHY 1110 Physics I Mechanics and Thermodynamics 8. ELE 1000 Introduction to EE 10-605-112 OR 10-605-270 9. ELE 2001 Electric Circuits I 0R 10-605-112 & -114 AND 10-662-105, OR 10-605-270 AND 10-662-121, OR 10-662-121 AND 10-662-221 d 10-605-113 AND 10-605-113 AND 10-605-115 AND 10-605-115 AND 10-662-106 ° 11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming 10-605-143, AND EITHER 12. ELE 3401 Electric Power and Machines 10-662-121 AND 10-662-221 13. Technical Elective b 10-605-178	3. MTH 1110 Calculus I	20-804-231
6. General Education elective b (Diversity CLO) none c  7. PHY 1110 Physics I Mechanics and Thermodynamics 20-806-223  8. ELE 1000 Introduction to EE 10-605-112 OR 10-605-270  9. ELE 2001 Electric Circuits I 0R 10-605-112 & -114 AND 10-662-105, OR 10-605-112 AND 10-662-121, OR 10-605-113 AND 10-605-113 AND 10-605-113 AND 10-605-115 AND 10-605-115 AND 10-662-105 COR 10-662-105 COR 10-662-121 COR 10-662-105 COR 10-662-121 COR 10-662-105 COR 10-662-121 COR 10-662-105 COR 10-605-119 AND 10-605-118 AND 10-605-119 AND 10-605-173 AND 10-605-174 AND 10-605-174 AND 10-605-175 COR 10-	4. MTH 1120 Calculus II	20-804-232
7. PHY 1110 Physics I Mechanics and Thermodynamics       20-806-223         8. ELE 1000 Introduction to EE       10-605-112 OR 10-605-270         9. ELE 2001 Electric Circuits I       10-605-112 & -114 AND 10-662-105, OR 10-605-270 AND 10-662-121, OR 10-662-121 AND 10-662-121 AND 10-662-121 AND 10-662-121 AND 10-605-113 AND 10-605-115 AND 10-605-115 AND 10-662-105° OR 10-662-106°         11. Two options in this requirement:       i) 10-605-118 AND 10-605-119 AND 10-662-106°         ii) ELE 1801 Transfer Digital Logic & Embedded Systems, OR       ii) All courses listed above in i) AND 10-605-176, OR         ii) ELE 2801 Bridge Digital Design & Procedural Programming       10-605-173 AND 10-605-176, OR         12. ELE 3401 Electric Power and Machines       10-605-143, AND EITHER 10-662-121 AND 10-662-221         13. Technical Elective b       10-605-178	5. General Education elective <sup>b</sup> (for PSY 3004; Curiosity CLO)	10-809-199
8. ELE 1000 Introduction to EE  10-605-112 OR 10-605-270  10-605-112 & -114 AND 10-662-105, OR 10-605-270 AND 10-662-121, OR 10-605-270 AND 10-662-121, OR 10-662-121 AND 10-662-221 d  10-605-113 AND 10-605-115 AND 10-605-115 AND 10-662-105 OR 10-662-121 c, AND 10-662-106 c  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-143, AND EITHER 12. ELE 3401 Electric Power and Machines  10-605-178	6. General Education elective <sup>b</sup> (Diversity CLO)	none <sup>e</sup>
10-605-112 & -114 AND 10-662-105, OR 10-605-270 AND 10-662-121, OR 10-605-121 AND 10-662-221 d  10-605-113 AND 10-605-115 AND 10-662-105 OR 10-662-121 OR 10-662-121 OR 10-662-121 OR 10-662-105 OR 10-662-121 OR 10-662-106 OR 10-662-106 OR 10-605-118 OR 10-605-118 OR 10-605-119 OR 10-605-173 OR 10-605-174 OR 10-605-174 OR 10-605-175 OR 10	7. PHY 1110 Physics I Mechanics and Thermodynamics	20-806-223
9. ELE 2001 Electric Circuits I OR 10-605-270 AND 10-662-121, OR 10-662-121 AND 10-662-121 d 10-605-113 AND 10-605-115 AND 10-662-105 ° OR 10-662-121 °, AND 10-662-106 °  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-143, AND EITHER 12. ELE 3401 Electric Power and Machines 10-662-121 AND 10-662-221 13. Technical Elective b 10-605-178	8. ELE 1000 Introduction to EE	10-605-112 <b>OR</b> 10-605-270
OR 10-662-121 AND 10-662-221 d  10-605-113 AND 10-605-115 AND 10-662-105 ° OR 10-662-121 °, AND 10-662-106 °  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-143, AND EITHER 12. ELE 3401 Electric Power and Machines  10-662-105 OR BOTH 10-662-121 AND 10-662-221  13. Technical Elective b  10-605-178		10-605-112 & -114 <b>AND</b> 10-662-105,
10. ELE 3141 Transfer Electronics  10-605-113 AND 10-605-115 AND 10-662-105 ° OR 10-662-121 °, AND 10-662-106 °  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-173 AND 10-605-176, OR ii) All courses listed above in i) AND 10-662-120  10-605-143, AND EITHER 10-662-105 OR BOTH 10-662-121 AND 10-662-221  13. Technical Elective b  10-605-178	9. ELE 2001 Electric Circuits I	OR 10-605-270 AND 10-662-121,
10. ELE 3141 Transfer Electronics  10-605-115 AND 10-662-105 ° OR 10-662-121 °, AND 10-662-106 °  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-173 AND 10-605-176, OR ii) All courses listed above in i) AND 10-662-120  10-662-120  10-662-121 AND 10-662-221  13. Technical Elective b  10-605-178		<b>OR</b> 10-662-121 <b>AND</b> 10-662-221 <sup>d</sup>
10. ELE 3141 Transfer Electronics  10-662-105 ° OR 10-662-121 °, AND 10-662-106 °  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-173 AND 10-605-176, OR ii) All courses listed above in i) AND 10-662-120  10-605-143, AND EITHER 10-662-105 OR BOTH 10-662-121 AND 10-662-221  13. Technical Elective b 10-605-178		10-605-113 <b>AND</b>
10-662-105 ° OR 10-662-121 °, AND 10-662-106 °  11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-173 AND 10-605-176, OR ii) All courses listed above in i) AND 10-662-120 10-662-120 10-662-121 AND EITHER 10-662-121 AND 10-662-221 13. Technical Elective b 10-605-178	10 FLF 2141 Transfer Floatronics	10-605-115 <b>AND</b>
11. Two options in this requirement: i) ELE 1801 Transfer Digital Logic & Embedded Systems, OR ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-605-173 AND 10-605-176, OR ii) All courses listed above in i) AND 10-662-120  10-605-143, AND EITHER 10-662-105 OR BOTH 10-662-121 AND 10-662-221  13. Technical Elective b 10-605-178	10. ELE 5141 Transfer Electronics	10-662-105 ° <b>OR</b> 10-662-121 °, <b>AND</b>
i) ELE 1801 Transfer Digital Logic & Embedded Systems, <b>OR</b> ii) ELE 1801 Transfer Digital Logic & Embedded Systems <b>AND</b> ELE 2801 Bridge Digital Design & Procedural Programming  10-662-120  10-605-143, <b>AND</b> EITHER  12. ELE 3401 Electric Power and Machines 10-662-105 <b>OR BOTH</b> 10-662-121 AND 10-662-221  13. Technical Elective b 10-605-178		10-662-106 <sup>c</sup>
ii) ELE 1801 Transfer Digital Logic &Embedded Systems AND ELE 2801 Bridge Digital Design & Procedural Programming  10-662-120  10-605-143, AND EITHER 12. ELE 3401 Electric Power and Machines 10-662-105 OR BOTH 10-662-121 AND 10-662-221 13. Technical Elective b 10-605-178	11. Two options in this requirement:	i) 10-605-118 <b>AND</b> 10-605- 119 <b>AND</b>
ELE 2801 Bridge Digital Design & Procedural Programming       10-662-120         12. ELE 3401 Electric Power and Machines       10-662-105 <b>OR BOTH</b> 13. Technical Elective b       10-665-178	i) ELE 1801 Transfer Digital Logic & Embedded Systems, <b>OR</b>	10-605-173 <b>AND</b> 10-605-176, <b>OR</b>
10-605-143, <b>AND EITHER</b> 12. ELE 3401 Electric Power and Machines 10-662-105 <b>OR BOTH</b> 10-662-121 AND 10-662-221 13. Technical Elective b 10-605-178	ii) ELE 1801 Transfer Digital Logic & Embedded Systems AND	ii) All courses listed above in i) AND
12. ELE 3401 Electric Power and Machines       10-662-105 OR BOTH         10-662-121 AND 10-662-221         13. Technical Elective b       10-605-178	ELE 2801 Bridge Digital Design & Procedural Programming	10-662-120
10-662-121 AND 10-662-221 13. Technical Elective b 10-605-178		10-605-143, <b>AND EITHER</b>
13. Technical Elective b 10-605-178	12. ELE 3401 Electric Power and Machines	10-662-105 <b>OR BOTH</b>
		10-662-121 AND 10-662-221
14. Free Elective <sup>b</sup> 20-809-264 <sup>e</sup>	13. Technical Elective <sup>b</sup>	10-605-178
	14. Free Elective <sup>b</sup>	20-809-264 <sup>e</sup>

a All courses in each category must be satisfied for transfer credit of the designated MSOE course. All Two-year College EET program course titles are stated on the following page.

- d 10-662-121 and 10-662-221 collectively also transfer for ELE 2011.
- e. 20-809-264, Introduction to Logic and Critical Thinking transfers for PHL 3202 (Think Critically CLO) and satisfies either an EE Free Elective or a Raider Core (Choice CLO) elective.

b Listed Two-year College course(s) is approved in this elective category. Any other Two-year College course requires approval by MSOE in advance of the student taking the course. Retroactive approval is not guaranteed.

c 10-662-105 or 10-662-121, a prerequisite to 10-662-106, must be taken and successfully passed with a grade of C (not C-) or above in a semester prior to when 10-662-106 is taken in order for 10-662-106 to be eligible for transfer consideration to MSOE.

## Madison College Course Listing (in effect at Madison in Fall 2025 for transfer to MSOE in Fall 2027)

First Semester	Class	CR
10-605-108*	Certified IPC Application Specialist (CIS) J-STD-001	1
10-605-113	Analog Circuit Techniques	3
10-605-118	Digital Circuit Techniques	3
10-801-195	Written Communication	3
10-809-199	Psychology of Human Relations	3
10-605-112	AC/DC Electronics 1, <b>OR</b>	3
10-605-270	AC/DC Circuit Techniques and Principles	
		16
Second Semester	Class	CR
10-605-115	Analog Circuit Principles	3
10-605-119	Digital Circuit Principles	3
10-605-173	Embedded Programming	3
10-662-120	Digital Circuit Design and VHDL	1
20-804-231	Calculus and Analytical Geometry 1	5
10-605-114	AC/DC Electronics 2, <b>OR</b>	3
10-662-121	Circuit Modeling 1	
		18
Third Semester	Class	CR
10-605-143	Motor and Control Circuits	3
10-605-176	Microcontrollers	3
20-804-232	Calculus and Analytical Geometry 2	5
20-809-264**	Introduction to Logic and Critical Thinking	3
10-662-105	Advanced Circuits (3 cr), <b>OR</b>	3 or 4
10-662-221	Circuit Modeling 2 (4 cr)	
		17 or 18
Fourth Semester	Class	CR
10-662-117*	Analog Circuit Design	1
10-605-178	Networks, Interfacing and Programming	3
10-662-106	Advanced Electronics	3
10-801-197	Technical Reporting	3
20-806-223	University Physics 1-Calculus-Based	5
		15
	Program Credits	66 or 67

<sup>\*</sup> This course is required in the Madison College EET program to earn the AAS EET degree but does not count toward transfer requirements into the MSOE AAS-EET to BSEE Transfer Pathway program.

<sup>\*\*</sup> Transferable into the BS-level of the MSOE AAS-EET to BSEE Transfer Pathway program: 20-809-264 Introduction to Logic and Critical Thinking transfers for PHL 3202 (Think Critically CLO) and satisfies either an EE Free Elective or a Raider Core elective (Choice CLO).