



**ARTICULATION AGREEMENT PROGRAM GUIDE**

**Exhibit A**

<b>Associate in Applied Science Pre-Engineering Oakland Community College (OCC)</b>		<b>Bachelor of Science Computer Engineering Lawrence Technological University (LTU)</b>	
Major Requirements:	Credit Hours	Equivalent Course:	
CHE 1510 General Chemistry I	4	CHM 1213	University Chemistry 1
EGR 2010 Engineering Programming	4	CHM 1221	University Chemistry 1 Lab
<sup>2</sup> ENG1510 Composition I	3	EGE 1102	Engineering Comp App Lab
ENG 2200 Professional Communication	4	COM 1103	College Composition
MAT 1730 Calculus I	4	COM 2103	Technical & Professional Com.
MAT 1740 Calculus II	4	MCS 1414	Calculus 1
MAT 2740 Calculus III	4	MCS 1424	Calculus 2
MAT 2810 Differential Equations	4	MCS 2414	Calculus 3
PHY 2400 Engineering Physics I	5	MCS 2423	Differential Equations
PHY 2500 Engineering Physics II	5	PHY 2413	University Physics 1
		PHY 2421	University Physics 1 Lab
		PHY 2423	University Physics 2
		PHY 2431	University Physics 2 Lab
<b>Focus Area:</b>			
<b>Electrical/Computer</b>			
EGR 2060 Engineering Digital Circuits	4	EEE 2214	Digital Electronics Lab
EGR 2080 Engineering Microcontrollers	4	EEE 3233	Microprocessors
		EEE 3231	Microprocessors Lab
EGR 2700 Engineering Circuits I	5	EEE 2114	Circuits 1
		EEE 2111	Circuits 1 Lab
<b>Additional General Education Requirements:</b>			
<sup>1</sup> MTA Fine Arts/Humanities	6	LLT 1213	World Masterpieces 1
		LLT 1223	World Masterpieces 2
<sup>1</sup> MTA Social Science	6	SSC 2413	Found. of the American Exp.
		SSC 2423	Develop. of the American Exp.
Total Credit Hours Required for Associate Degree:	66		



Additional courses that may be taken at OCC and required for the LTU, BS in Computer Engineering Program:  
(Deviation will result in additional LTU coursework upon transfer.)

CIS 1512	Principles of Software Engineering	3
CIS 2151	Object-Oriented Programming (Java)	4
<b><u>or</u></b>		
CIS 2252	Object-Oriented Programming (C++)	4
CIS 2353	Data Structures	4
ECO 2610	Principles of Macroeconomics	3
EGR 1100	Introduction to Engineering	3
MAT 1580	Statistics	4

**Total additional credit hours that may be taken at OCC: 21**

**Total Credit Hours Taken at OCC: 87**

MCS 2513	Software Engineering 1
MCS 1514	Computer Science 1
MCS 2534	Data Structures
SSC 2303	Principles of Economics
EGE 1001	Fund. of Engineering Design &
+ EEE 1001	Intro to ECE
MCS 3403	Probability & Statistics

**Total OCC Credit Hours Applied Towards the LTU B.S. in Computer Engineering: 79**



**Bachelor of Science  
Computer Engineering  
Lawrence Technological University (LTU)**

**Remaining Requirements:**

EEE 3011	Introduction to ECE Projects	1
EEE 3124	Circuits 2	4
EEE 3221	Advanced Digital Electronics Lab	1
EEE 3223	Advanced Digital Electronics	3
EEE 3311	Electronics Lab	1
EEE 3314	Electronics	4
EEE	3/4xx1 – EE Lab	1
EEE	EE Technical Elective	3
EEE 4xx3	EE Technical Elective	3
EEE4243	Embedded Systems	3
EEE 4253	Computer Architecture 1	3
EEE 4273	Real Time Systems	3
EEE 4514	Control Systems Lab	4
EEE 4812	ECE Project 1	2
EEE 4822	ECE Project 2	2
EGE 1102	Engineering Computer Application Lab	2
EGE 3012	Engineering Cost Analysis	2
EGE 3022	Leadership & Professional Development	2
EGE 3361	Business Plan	1
LLT/SSC/PSY	3xx3/4xx3 Elective	3
MCS 2514	Computer Science 2	4
MCS 2523	Discrete Math	3
Total Credit Hours Taken at LTU:		55
Minimum Credit Hours Required:		132
Total Credit Hours Taken:		147

**Notes:**

- <sup>1</sup>Arts/Humanities, Social Science must be from two different disciplines. Students who complete MTA may choose from applicable courses listed in the OCC Catalog. Students who do not complete MTA can choose courses from the following:
  - Social Science: ANT 1540, 2510, 2750, GEO 2510, GLS 2510, 2520, 2904, HIS 1510, 1520, 1550, 1651, 1660, 1661, 1662, 1663, 1700, 2510, 2520, 2610, HUM 1710, PHI 1520, 1610, 1710, 2710, POL 1510, 1990, 1991, 1992, 1993, 2520, 2530, 2610, 2990, 2991, 2992, PSY 2510, 2710, 2730, 2810, SOC 2510, 2520, 2530, 2550, 2560, 2570, 2610, 2620
  - Fine Arts/Humanities: **ART** 2560, 2600, 2620, **ENG** 1610, 1710, 1720, 2300, 2510, 2520, 2530, 2540, 2550, 2560, 2750, 2760, 2770, 2780, 2800, **FSH** 1500, **HUM** 1510, 1520, 2720, 2900
- <sup>2</sup>If a student completed ENG 1510 using the MTA then COM 1103 College Composition will be satisfied. If the student does not complete the MTA then ENG 1520 must be completed for transfer credits of COM 1103.
- The remaining degree requirements noted assume students have completed the articulation agreement as outlined- including successful completion of the specific recommended OCC electives.
- Deviation from this guide may result in none transferable and/or applicable OCC coursework, resulting in additional requirements.
- Completion of this Transfer Credit Agreement Program Guide does not guarantee admission to the Computer Engineering program at the LTU. Students are encouraged to meet with an OCC Counselor prior to following this Transfer Credit Agreement Program Guide and with an LTU representative before enrolling in their final year at OCC to maximize admissions, scholarship, and transfer eligibility.
- This guide does not include any remedial courses that may be required at OCC and may not include prerequisite requirements.
- Lawrence Technological University requires that a minimum of a “C” (2.0) be earned in each course in order to be considered for transfer credit, non-germane and remedial courses may not qualify for transfer credit.
- For the full LTU Transfer Credit Policy, go to <https://www.ltu.edu/futurestudents/transfer/>.

For questions regarding the transferability of coursework not reflected on the guide, please contact Emily Phelan at Lawrence Technological University, 248-204-3169 or [ephelan@edu](mailto:ephelan@edu). For questions regarding the Computer Engineering program please contact Dr. Nabih Jaber, Chair of Electrical & Computer Engineering, at [njaber@ltu.edu](mailto:njaber@ltu.edu).

This Transfer Credit Agreement Program Guide is valid from **May 2022 – May 2027.**