

**Articulation Agreement Between  
Century Community & Technical College  
and St. Cloud State University**

Century Community and Technical College  
3300 Century Avenue North  
White Bear Lake, MN 55110  
Associate in Science and Engineering Program  
Contact: Tim Grebner

St. Cloud State University  
Engineering and Computing Center  
720 Fourth Avenue South  
St. Cloud, MN 56301  
Bachelor of Science in Computer Engineering (Appendix A) – Contact Dr. Mark Petzold  
Bachelor of Science in Electrical Engineering (Appendix B) – Contact Dr. Mark Petzold  
Bachelor of Science in Manufacturing Engineering (Appendix C) – Contact Dr. Steve Covey  
Bachelor of Science in Mechanical Engineering (Appendix D) – Contact Dr. Steve Covey

**Part I: TERMS OF THE AGREEMENT**

**Purpose:**

The purpose of this agreement is to facilitate credit transfer between and completion of the four programs named at the outset of this agreement. This agreement identifies required and equivalent courses at each institution.

**Terms and Conditions:**

The parties to this agreement hereby agree to the terms and conditions set forth in this document.

Students from Century Community and Technical College must meet the eligibility requirements for admission as a transfer student at St. Cloud State University.

Transfer students from Century Community and Technical College admitted to St. Cloud State University will be accorded the same standards and criteria for admission to a major program as students who originated their education at St. Cloud State University.

The evaluation and transfer of earned college credits shall be in full compliance with MnSCU policies and all other state and federal education policies pertaining to transfer of undergraduate credits. Current students and graduates who have completed the Engineering Program at Century Community and Technical College shall be eligible for evaluation of credits under the terms of this agreement. The attached appendices describe the required program of study at St. Cloud State University for admission eligibility to St. Cloud State University in the Bachelor of Science engineering programs. Appendices A through D state the applicability of specific courses and credits in Century's pre-engineering program to SCSU's various engineering programs, including counting of general education courses, required courses for the major, and electives. Appendices A through D also state the required courses for

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completion of the bachelor's degree programs, including the required complement of general education credits and upper division credits.

To receive a Bachelor of Science degree in engineering, students must fulfill the graduation requirements at St. Cloud State University.

### **PART II: IMPLEMENTATION AND REVIEW**

The Chief Academic Officers, or designees, of the collaborating institutions shall be responsible for implementing this agreement, for identifying and incorporating any changes in subsequent agreements, and for conducting a periodic review of this agreement.

The date of implementation of the agreement is August 1, 2008.

This agreement becomes effective on the date signed by officials at both institutions and shall remain in effect until 5 years after date of implementation (August 1, 2013). It may be amended or renewed at any time by mutual agreement of both parties. It may be terminated by either party at any time upon written notice to the other party. Each party must notify the other of changes in its program. Students already enrolled in either program at the time of termination shall have the full benefits of the provisions of the agreement except in the case of a program's closure.

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Signing for Century Community and Technical College

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Name Date

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Signing for St. Cloud State University

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**APPENDIX A: COMPUTER ENGINEERING**

**Courses taken at Century College which will apply to the Bachelor of Science in Computer Engineering at St. Cloud State University:**

**General Education:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Engl 1022: Composition II	3	ENGL 191: Intro to Rhetorical & Analytical Writing	4
Spch 1021: Fundam. of Public Speaking	3	CMST 192: Intro to Communication Studies	3
Math 1081: Single Variable Calculus I	5	MATH 221: Calculus and Analytic Geometry I	5
Phil 1041: Intro to Logic	3	PHIL 194: Critical Reasoning	3

**Total general education: 14 credits**

**Specialized Courses:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Math 1082: Single Variable Calculus II	5	MATH 222: Calculus and Analytic Geometry II	4
Math 2081: Multivariable Calculus	5	MATH 311: Linear Algebra and Multivariable Calculus for Engineering	3
Math 2082: Linear Algebra and Differential Equations	5	MATH 325: Differential Equations	3
Phys 1081: Introductory Physics I	5	PHYS 234: Classical Physics I	5
Phys 1082: Introductory Physics II	5	PHYS 235: Classical Physics II	5
Csci 2011: C++ Programming I	3	ECE 102: Engineering Problem Solving	3
Csci 2040: Data Structures/Algorithms	3	CSCI 301: Computer Science II	4
Engr 1020: Introduction to Engineering	4	ECE 101: Intro to Engineering Profession	3
Engr 2091: Circuits I	4	ECE 201: Circuit Analysis I	3
+		ECE 202: Circuit Analysis II	3
Engr 2092: Circuits II	4	ECE 203: Circuits Laboratory	1
Engr 2095: Intro to Digital Design	4	ECE 221: Digital Logic Design	3

**Total specialized courses: 47 credits**

**TRANSFER TOTAL: 61 CREDITS**

Notes: Students must have grades of C or higher in specialized courses applicable to the Bachelor of Science in Computer Engineering for the credits to transfer. Students must have a GPA of 2.5 or higher in the courses listed above, and an overall GPA of 2.5 at Century College for admission to the Computer Engineering major at St. Cloud State University.

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**APPENDIX A CONTINUED: COMPUTER ENGINEERING**

**Courses to be taken at St. Cloud State University for the Bachelor of Science in Computer Engineering:**

*With the completion of the Engineering Program from Century Community and Technical College, the student will be required to complete a total of at least 128 credits for the Bachelor of Science in Computer Engineering, including 40 credits in general education, one credit in PESS 122, and 45 upper-division credits.*

Course Number	Credits	Course Name
CSCI 201	4	Computer Science I
CSCI 310	3	Introduction to Operating Systems
CSCI 311	2	Systems Programming
CSCI 331	3	Software Systems
ECE 322	3	Advanced Logic Design
ECE 323	4	Introduction to Microprocessors
STAT 353 or 417	3	Statistics for Engineers/Applied Probability and Simulation
ECE 461	3	Senior Design
ECE 462	3	Senior Design
MATH 273	3	Discrete Math
Math/Physics Elective (3 credits)		
Junior Elective (3 credits)		
Computer Engineering Sequence (9 credits)		
Senior Elective (3 credits)		

**Credits earned toward major at SCSU: 59 (includes 45 upper-division credits)**

**Credits earned towards major at Century College: 61**

**Additional SCSU General Education and upper-division credits:**

Core 5, Democratic Citizenship (3 credits)
Distribution Area A-- one diversity and one other (6 credits)
Distribution Area C—one diversity and one racial issues (6 credits)
PESS 122 (1 credit)

**Total General Education credits: 40**

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**APPENDIX B: ELECTRICAL ENGINEERING**

**Courses taken at Century College which will apply to the Bachelor of Science in Electrical Engineering at St. Cloud State University:**

**General Education:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Engl 1022: Composition II	3	ENGL 191: Intro to Rhetorical & Analytical Writing	4
Spch 1021: Fundam. of Public Speaking	3	CMST 192: Intro to Communication Studies	3
Math 1081: Single Variable Calculus I	5	MATH 221: Calculus and Analytic Geometry I	5
Phil 1041: Intro to Logic	3	PHIL 194: Critical Reasoning	3
Chem 1041: Principles of Chemistry I	5	CHEM 210: General Chemistry I	4

**Total general education: 14 credits**

**Specialized Courses:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Math 1082: Single Variable Calculus II	5	MATH 222: Calculus and Analytic Geometry II	4
Math 2081: Multivariable Calculus +	5	MATH 311: Linear Algebra and Multivariable Calculus for Engineering	3
Math 2082: Linear Algebra and Differential Equations	5	MATH 325: Differential Equations	3
Phys 1081: Introductory Physics I	5	PHYS 234: Classical Physics I	5
Phys 1082: Introductory Physics II	5	PHYS 235: Classical Physics II	5
Csci 2011: C++ Programming I	3	ECE 102: Engineering Problem Solving	3
Engr 1020: Introduction to Engineering	4	ECE 101: Intro to Engineering Profession	3
Engr 2091: Circuits I  +	4	ECE 201: Circuit Analysis I +	3
		ECE 202: Circuit Analysis II +	3
Engr 2092: Circuits II	4	ECE 203: Circuits Laboratory	1
Engr 2095: Intro to Digital Design	4	ECE 221: Digital Logic Design	3

**Total specialized courses: 44 credits**

**TRANSFER TOTAL: 60 CREDITS**

Notes: Students must have grades of C or higher in specialized courses applicable to the Bachelor of Science in Electrical Engineering for the credits to transfer. Students must have a GPA of 2.5 or higher in the courses listed above, and an overall GPA of 2.5 at Century College for admission to the Electrical Engineering major at St. Cloud State University.

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**APPENDIX B CONTINUED: ELECTRICAL ENGINEERING**

**Courses to be taken at St. Cloud State University for the Bachelor of Science in Electrical Engineering:**

*With the completion of the Engineering Program from Century Community and Technical College, the student will be required to complete a total of at least 128 credits for the Bachelor of Science in Electrical Engineering, including 40 credits in general education, one credit in PESS 122, and 45 upper-division credits.*

Course Number	Credits	Course Name
CSCI 201	4	Computer Science I
ECE 301	4	Signals and Systems
ECE 311	3	Digital Electronics
ECE 312	4	Analog Electronics
ECE 322	3	Advanced Logic Design
ECE 323	4	Introduction to Microprocessors
ECE 391	4	Electromagnetics
STAT 353 or 417	3	Statistics for Engineers/Applied Probability and Simulation
ECE 461	3	Senior Design
ECE 462	3	Senior Design
Physics Elective (3 credits)		
Non-EE Elective (3 credits)		
Depth electives (6 credits)		
Breadth electives (6 credits)		
Senior Elective (3 credits)		

**Credits earned toward major at SCSU: 56 (includes 49 upper-division credits)**

**Credits earned towards major at Century College: 60**

**Additional SCSU General Education and upper-division credits:**

Core 5, Democratic Citizenship (3 credits)
Distribution Area A-- one diversity and one other (6 credits)
Distribution Area C—one diversity and one racial issues (6 credits)
PESS 122 (1 credit)

**Total General Education credits: 40**

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**APPENDIX C: MANUFACTURING ENGINEERING**

**Courses taken at Century College which will apply to the Bachelor of Science in Manufacturing Engineering at St. Cloud State University:**

**General Education:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Engl 1022: Composition II	3	ENGL 191: Intro to Rhetorical & Analytical Writing	4
Spch 1021: Fundam. of Public Speaking	3	CMST 192: Intro to Communication Studies	3
Phil 1041: Intro to Logic	3	PHIL 194: Critical Reasoning	3

**Total general education: 9 credits**

**Specialized Courses:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Math 1081: Single Variable Calculus I	5	MATH 221: Calculus and Analytic Geometry I	5
Math 1082: Single Variable Calculus II	5	MATH 222: Calculus and Analytic Geometry II	4
Math 2081: Multivariable Calculus +	5	MATH 311: Linear Algebra and Multivariable Calculus for Engineering	3
Math 2082: Linear Algebra and Differential Equations	5	MATH 325: Differential Equations	3
Phys 1081: Introductory Physics I	5	PHYS 234: Classical Physics I	5
Phys 1082: Introductory Physics II	5	PHYS 235: Classical Physics II	5
Chem 1041: Principles of Chemistry I	5	CHEM 210: General Chemistry I	4
Csci 2011: C++ Programming I	3	ECE 102: Engineering Problem Solving	3
Engr 1020: Introduction to Engineering	4	ECE 101: Intro to Engineering Profession	3
Engr 1080: Statics	3	MME 241: Statics	3
Engr 2080: Dynamics	3	MME 242: Dynamics	3
Engr 2085: Deformable Body Mechanics	3	MME 210: Engineering Materials	3
Engr 2091: Circuits I	4	ECE 201: Circuit Analysis I	3
Biol 1041: Intro to Biology I (or) Chem 1042: Lab Principles of Chem II (or) Phys 2083: Modern Physics	4 or 5	Free technical elective	3

**Total specialized courses: 61 or 62 credits**

**TRANSFER TOTAL: 70 OR 71 credits**

Notes: Students must have grades of C or higher in specialized courses applicable to the Bachelor of Science in Manufacturing Engineering for the credits to transfer. Students must have a GPA of 2.5 or higher in the courses listed above, and an overall GPA of 2.5 at Century College for admission to the Manufacturing Engineering major at St. Cloud State University.

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**APPENDIX C CONTINUED: MANUFACTURING ENGINEERING**

**Courses to be taken at St. Cloud State University for the Bachelor of Science in Manufacturing Engineering:**

*With the completion of the Engineering Program from Century Community and Technical College, the student will be required to complete at least 128 credits for the Bachelor of Science in Manufacturing Engineering, including 40 credits in general education, one credit in PESS 122, and 45 upper-division credits.*

Course Number	Credits	Course Name
MME 200 or MME 300	3	Engineering Thermodynamics or Fluid Mechanics
MME 220	3	Engineering Design Graphics
MME 222	2	Solid Modeling
MME 330	3	Engineering Materials Processing I
MME 331	3	Engineering Materials Processing II
MME 340	3	Strength of Materials
MME 341	3	Design of Machine Elements
MME 350	2	Process Measurement and Sensors
MME 351	3	Machine Control
MME 360	2	Manufacturing Economics
MME 460	3	Quality Engineering
MME 464	3	Process and Tool Design
MME 470	3	Facilities Planning/Materials Handling
MME 480	3	Engineering Design Project I
MME 481	3	Engineering Design Project II
Additional technical electives from approved list (6 credits)		

**Credits earned toward major at SCSU: 48 (includes 40-43 upper-division courses)**

**Credits earned toward major at Century Community and Technical College: 70 or 71**

**Additional SCSU General Education and upper-division credits:**

Core 5, Democratic Citizenship (3 credits)
Distribution Area A-- one diversity and one other (6 credits)
Distribution Area C—one diversity and one racial issues (6 credits)
PESS 122 (1 credit)

**Total General Education credits: 40**

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**APPENDIX D: MECHANICAL ENGINEERING**

**Courses taken at Century College which will apply to the Bachelor of Science in Mechanical Engineering at St. Cloud State University:**

**General Education:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Engl 1022: Composition II	3	ENGL 191: Intro to Rhetorical & Analytical Writing	4
Spch 1021: Fundam. of Public Speaking	3	CMST 192: Intro to Communication Studies	3
Phil 1041: Intro to Logic	3	PHIL 194: Critical Reasoning	3

**Total general education: 9 credits**

**Specialized Courses:**

Century College Courses	credits	SCSU Requirements Satisfied by Century Courses	Credits
Math 1081: Single Variable Calculus I	5	MATH 221: Calculus and Analytic Geometry I	5
Math 1082: Single Variable Calculus II	5	MATH 222: Calculus and Analytic Geometry II	4
Math 2081: Multivariable Calculus +	5	MATH 311: Linear Algebra and Multivariable Calculus for Engineering	3
Math 2082: Linear Algebra and Differential Equations	5	MATH 325: Differential Equations	3
Phys 1081: Introductory Physics I	5	PHYS 234: Classical Physics I	5
Phys 1082: Introductory Physics II	5	PHYS 235: Classical Physics II	5
Chem 1041: Principles of Chemistry I	5	CHEM 210: General Chemistry I	4
Csci 2011: C++ Programming I	3	ECE 102: Engineering Problem Solving	3
Engr 1020: Introduction to Engineering	4	ECE 101: Intro to Engineering Profession	3
Engr 1080: Statics	3	MME 241: Statics	3
Engr 2080: Dynamics	3	MME 242: Dynamics	3
Engr 2085: Deformable Body Mechanics	3	MME 210: Engineering Materials	3
Engr 2091: Circuits I	4	ECE 201: Circuit Analysis I	3
Biol 1041: Intro to Biology I (or) Chem 1042: Lab Principles of Chem II (or) Phys 2083: Modern Physics	4 or 5	Free technical elective	3

**Total specialized courses: 61 or 62 credits**

**TRANSFER TOTAL: 70 OR 71 credits**

Notes: Students must have grades of C or higher in specialized courses applicable to the Bachelor of Science in Mechanical Engineering for the credits to transfer. Students must have a GPA of 2.5 or higher in the courses listed above, and an overall GPA of 2.5 at Century College for admission to the Mechanical Engineering major at St. Cloud State University.

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**APPENDIX D CONTINUED: MECHANICAL ENGINEERING**

**Courses to be taken at St. Cloud State University for the Bachelor of Science in Mechanical Engineering:**

*With the completion of the Engineering Program from Century Community and Technical College, the student will be required to complete at least 128 credits for the Bachelor of Science in Mechanical Engineering, including 40 credits in general education, one credit in PESS 122, and 45 upper-division credits.*

Course Number	Credits	Course Name
MME 200	3	Engineering Thermodynamics
MME 220	3	Engineering Design Graphics
MME 222	2	Solid Modeling
MME 300	3	Fluid Mechanics
MME 302	3	Heat Transfer
MME 330	3	Engineering Materials Processing I
MME 340	3	Strength of Materials
MME 341	3	Design of Machine Elements
MME 345	3	Mechanisms
MME 350	2	Process Measurement and Sensors
MME 351	3	Machine Control
MME 360	2	Manufacturing Economics
MME 401	1	Thermal Sciences Lab
MME 480	3	Engineering Design Project I
MME 481	3	Engineering Design Project II
Technical electives from approved list (9 credits)		

**Credits earned toward major at SCSU: 49 (includes 32 upper-division courses)**

**Credits earned toward major at Century Community and Technical College: 70 or 71**

**Additional SCSU General Education and upper-division credits:**

Core 5, Democratic Citizenship (3 credits)
Distribution Area A-- one diversity and one other (6 credits)
Distribution Area C—one diversity and one racial issues (6 credits)
PESS 122 (1 credit)

**Total General Education credits: 40**