Academic Credit Agreement

Thomas Nelson Community College

- **AS in Business Administration**
- **AAS in Electronics Technology (Specialization in Electrical Engineering Technology)**
- **AAS in Mechanical Engineering Technology (Specialization in Marine Engineering)**
- **AAS in Mechanical Engineering Technology (Specialization in Modeling and Simulation)**
- **AAS in Technical Studies with Specialization In Engineering Technology**

Graduate Services– 757-688-9066

Rev.Mar2015

Steps for transfer of courses and credits from The Apprentice School to TNCC

1. At least four weeks prior to submitting your application for admission, have an official Apprentice School transcript sent to Admissions and Records Office (fill out Transcript Request form and send to Registrar for The Apprentice School).

2. Complete an application for admission form and submit to the Office of Admissions and Records. Thomas Nelson Community College, P. O. Box 9407 Hampton, VA 23670. Or, you may drop it off at Room 200, Griffin Hall on the Hampton campus. (Note: when you complete the application for admission form, be sure to list The Apprentice School in response to previous College Education and check transfer block, indicating that you have attended other colleges.)

3. Request placement testing to be waived because you have completed college level courses thought The Apprentice School.

4. Plan your academic program and select courses.

5. Each semester, submit your EdAssit (policy CO H300) paperwork for monies for classes you want to take before you register. If you have questions on EdAssist Program please contact Linda Graves, Dept.O35, 688-8236.

Statement of Articulation Agreement
Between
Thomas Nelson Community College
And
The Apprentice School -- Northrop Grumman Shipbuilding-Newport News

Thomas Nelson Community College and The Apprentice School share the broad educational mission of providing opportunities for registered apprentices in the Commonwealth of Virginia to pursue knowledge and gain skills toward more rewarding careers.

Thomas Nelson Community College and The Apprentice School recognize the benefits of facilitating course and credit transfer between the respective institutions and hereby agree:

1. That Thomas Nelson Community College will admit those Apprentice School students who have successfully completed the World Class Shipbuilder Curriculum and who have completed the Thomas Nelson Community College application process for admission into one of its certificate or associate degree programs.
2. That Thomas Nelson Community College will accept Apprentice School courses and earned credits stipulated on the Course Transfer Agreement, consistent with its transfer policies, and apply those credits to degree programs in business administration and engineering technology, where applicable.
3. That Thomas Nelson Community College will provide course offerings for apprentices in line with associate degree programs in business administration and engineering technology including Business Administration (213), Electronics Technology with Specialization in Electrical Engineering Technology (981-04), Mechanical Engineering Technology with Specialization in Marine Engineering (956-01), and Mechanical Engineering Technology with Specialization in Modeling and Simulation (956-05).
4. That Thomas Nelson Community College and The Apprentice School will review this agreement periodically, especially when major changes are proposed by either institution.

Thomas Nelson Community College

Norman Hahn, Interim Vice President

for Academic Affairs

Date: 6/10/10

The Apprentice School

James H. Hughes, Ph.D.

Manager, Training (Academics)

Date: 06-10-2010

Associate of Science

Business Administration (213)

Thomas Nelson Community College	The Apprentice School
General Education Courses	
ENG 111-112 College Composition I and II	E111-E112 College Composition I and II (TNCC)
CST 100 Principles of Public Speaking	C243 Technical Communications III
Humanities or Fine Arts Electives (3-3)	P220 Ethics (TNCC)
	E241 Survey of American Literature I (TNCC)
History I and II (3-3)	H121-H122 United States History I and II (TNCC)
Mathematics I and II (3-3)	M163-M165 Precalculus I and II (TNCC)
Laboratory Science I and II (4-4)	P221-P222 Physical Science I and II
	P199 General College Physics I Lab (TNCC)
	P202 General College Physics II (TNCC)
HLT/PED Health or Physical Education Electives (2)	H215 Stress Management (TNCC)
	Participation in Varsity Athletics (1-2)
SDV 100 College Success Skills	S100 Student Orientation (TNCC)
Major and Other Courses	
ACC 211-212 Principles of Accounting I and II	A211-A212 Principles of Accounting I and II (TNCC)
ECO 201-202 Principles of Economics I and II	E201-E202 Principles of Economics I and II (TNCC)
Business Electives (12)	B112 Problem Solving
	B117 High Performance Work Teams (TNCC)
	B122 Business Operations and Leadership
	B209 Total Quality Management (TNCC)
	B215 Production Planning
	B216 Probability and Statistics for Business &
	Economics (TNCC)

6/10/10	06 '10 2010
Thomas Nelson Community College (date)	The Apprentice School (date)

Associate of Applied Science

Mechanical Engineering Technology (956-01)

Specialization in Marine Engineering

Thomas Nelson Community College	The Apprentice School
General Education Courses	
ENG 111 College Composition I	E111-E112 College Composition I and II (TNCC)
ENG 115 Technical Writing	C232 Technical Communications II
	C243 Technical Communications III
ECO 201 Principles of Economics I	E201 Principles of Economics I (TNCC)
PHY201-202 General College Physics I and II	P221-P222 Physical Science I and II
	P199 General College Physics I Lab (TNCC)
	P202 General College Physics II (TNCC)
Social Science Elective (3)	H121 United States History I (TNCC)
MTH 163 and MTH 164 Precalculus I and II	M163-M165 Precalculus I and II (TNCC)
HLT/PED Health or Physical Education Electives (2)	H215 Stress Management (TNCC)
	Participation in Varsity Athletics (1-2)
SDV 100 College Success Skills	S100 Student Orientation (TNCC)
Major and Other Courses	
CHM 111 College Chemistry I	C221 College Chemistry I (TNCC)
CAD 151 Engineering Drawing Fundamentals I	D111 Drafting
	(provided student earns AutoCad certificates – 50 hours, or completes 40 hours of computer-aided drafting training, or completes CAD 241 at TNCC)
CAD 241 Parametric Solid Modeling I	D241 Parametric Solid Modeling I (TNCC)
MAR 211 Naval Architecture I	N237 Naval Architecture

MAR 212 Naval Architecture II	N236 Marine Engineering O233 Shipbuilding Operations
MAR 215 Applied Naval Architecture	D243 Shipbuilding Design Project
MEC 113 Materials and Processes of Industry	M113 Materials and Processes of Industry (TNCC)
MEC 131 Mechanics I – Statics for Engineering Technology	M131 Mechanics I – Statics for Engineering Technology (TNCC)
MEC 132 Mechanics II - Strength of Materials for Engineering Technology	M132 Mechanics II - Strength of Materials for Engineering Technology (TNCC)
MTH 173 Calculus with Analytic Geometry I	M173 Calculus with Analytic Geometry I (TNCC)
Elective (3)	Combination of CAD and MEC course equivalencies in World Class Shipbuilder Curriculum, on-the-job training and work experience

6/9/10 Thomas Nelson Community College (date)	06-10-2010 The Apprentice School (date)

Associate of Applied Science

Mechanical Engineering Technology (956-05)

Specialization Modeling and Simulation

Thomas Nelson Community College	The Apprentice School
General Education Courses	
ENG 111 College Composition I	E111-E112 College Composition I and II (TNCC)
ENG 115 Technical Writing	C232 Technical Communications II
	C243 Technical Communications III
PHI 220 Ethics	P220 Ethics (TNCC)
Social Science Electives (3)	H121 United States History I (TNCC)
ECO 201 Principles of Economics I	E201 Principles of Economics I (TNCC)
MTH 163 and MTH 164 Precalculus I and II	M163-M165 Precalculus I and II (TNCC)
PHY201-202 General College Physics I and II	P221-P222 Physical Science I and II
	P199 General College Physics I Lab (TNCC)
	P202 General College Physics II (TNCC)
HLT/PED Health or Physical Education Electives (1)	H215 Stress Management (TNCC)
	Participation in Varsity Athletics (At least 1Year)
SDV 100 College Success Skills	S100 Student Orientation (TNCC)
Major and Other Courses	
CHM 111 College Chemistry I	C221 College Chemistry I (TNCC)
CAD 151 Engineering Drawing Fundamentals I	D111 Drafting
	(provided student earns AutoCad certificates – 50 hours, or completes 40 hours of computer-aided drafting training, or completes CAD 241 at TNCC)
CAD 211 Advanced Technical Drafting I	D211 Advanced Technical Drafting I (TNCC)

CAD 295 Modeling & Simulation Using Inventor	D295 Modeling & Simulation Using Inventor (TNCC)
MTH 240 Statistics	M240 Statistics (TNCC)
MTH 287 Mathematical Structures	M287 Mathematical Structures (TNCC)
MEC 113 Materials and Processes of Industry	M113 Materials and Processes of Industry (TNCC)
MEC 131 Mechanics I – Statics for Engineering Technology	M131 Mechanics I – Statics for Engineering Technology (TNCC)
MEC 132 Mechanics II – Strength of Materials for Engineering Technology	M132 Mechanics II – Strength of Materials for Engineering Technology (TNCC)
SIM 201 Modeling and Simulation I	E061 Introduction to Modeling and Simulation
SIM 202 Modeling and Simulation II	E062 Modeling and Simulation Applied
MTH 173 Calculus with Analytic Geometry I	M173 Calculus I (TNCC)

[signature] 6/10/10	James H. Hughes 06-10-2010
Thomas Nelson Community College (date)	The Apprentice School (date)

Associate of Applied Science

Electronics Technology (981-04)

Specialization in Electrical Engineering Technology

Thomas Nelson Community College	The Apprentice School
General Education Courses	
ENG 111 College Composition I	E111-E112 College Composition I and II (TNCC)
ENG 115 Technical Writing	C232 Technical Communications II
	C243 Technical Communications III
PHI 220 Ethics	P220 Ethics (TNCC)
Social Science Electives (6)	E201 Principles of Economics I (TNCC)
	H121 United States History I (TNCC)
MTH 163 and MTH 164 Precalculus I and II	M163-M165 Precalculus I and II (TNCC)
MTH 173 Calculus I	M173 Calculus I (TNCC)
PHY201-202 General College Physics I and II	P221-P222 Physical Science I and II
	P199 General College Physics I Lab (TNCC)
	P202 General College Physics II (TNCC)
HLT/PED Health or Physical Education Electives (1)	H215 Stress Management (TNCC)
	Participation in Varsity Athletics (At least 1Year)
SDV 100 College Success Skills	S100 Student Orientation (TNCC)
Major and Other Courses	
ELE 239 Programmable Controllers	X313 Applied Theory III: Polyphase Systems and Controls
	X316 Programmable Logic Controllers

ETR 104 Electronic Fundamentals with Computer Applications	X311 Applied Theory I: DC Concepts X312 Applied Theory II: AC Concepts
ETR 113-114 DC & AC Fundamentals I and II	X311 Applied Theory I: DC Concepts X312 Applied Theory II: AC Concepts X313 Applied Theory III: Polyphase Systems and Controls
ETR 148 Amplifiers and Integrated Circuits ETR 250 Solid State Devices	X314 Static Controls
ETR 261 Microprocessor Application I	E262 Microprocessor Application I (TNCC)
ETR 279 Digital Principles, Terms, & Applications	E279 Digital Principles, Terms, & Applications (TNCC)
ETR 231 Principles of Lasers & Fiber Optics I	E231 Principles of Lasers & Fiber Optics I (TNCC)

6/6/10	
Thomas Nelson Community College (date)	The Apprentice School (date)

Course Transfer Agreement
June 2010

NGSB APPRENTICE SCHOOL World Class Shipbuilder Curriculum	THOMAS NELSON CC
M111 Technical Mathematics I	MTH 115 Technical Mathematics I
M112 Technical Mathematics II	MTH 116 Technical Mathematics II
P221 and P222 Physical Science I & II	PHY 201 General College Physics I (provided student completes PHY 199 Physics Lab)
D111 Drafting	CAD 151 Engineering Drawing Fundamentals I (provided student earns AutoCad certificates-50 hours, or completes 40 hours of computer-aided drafting training, or completes CAD 241 at TNCC)
C111 Technical Communications I	
N111 and N222 Ship Construction I & II	MAR 120 Introduction to Ship Systems
C211 Introduction to Computers	MEC 100 Introduction to Engineering Technology ITE 115 Intro to Computer Applications and Concepts
M121 Mechanics	
B122 Business Operations and Leadership B112 Problem Solving	BUS 200 Principles of Management
On-the-job Training and Trade Experience (two years; documented by NGSB AS)	ETR 297 or MEC 297 Cooperative Education

Course Transfer Agreement
June 2010

NGSB APPRENTICE SCHOOL Pre-Advanced Program	THOMAS NELSON CC
E111 English Composition I (TNCC)	ENG 111 English Composition I
E112 English Composition II (TNCC)	ENG 112 English Composition II
E201 Principles of Economics I (TNCC)	ECO 201Principles of Economics I
H121 United States History I (TNCC)	HIS 121 United States History II
H215 Stress Management (TNCC)	HLT 295 Topics in Health (Customized course adapted from HLT 215 Personal Stress and Stress Management)
M163 Precalculus I (TNCC)	MTH 163 Precalculus I
M165 Precalculus II (TNCC)	MTH 164 Precalculus II
M173 Calculus I (TNCC)	MTH 173 Calculus I
M270 Applied Business Calculus (TNCC)	MTH 270 Applied Business Calculus
O233 Shipbuilding Operations	(See Engineering Technology)
P220 Ethics (TNCC)	PHI 220 Ethics
P199 General College Physics I Lab (TNCC)	PHY 199 General College Physics I Lab
P202 General College Physics II (TNCC)	PHY 202 General College Physics II Lab
S100 Student Orientation (TNCC)	SDV 100 College Success Skills
TNCC Indicates course taught by Thomas Nelson Community College for The Apprentice School.	

Course Transfer Agreement
June 2010

NGSB APPRENTICE SCHOOL Engineering Technology	THOMAS NELSON CC
C221 College Chemistry I (TNCC)	CHM 111 College Chemistry I
C232 Technical Communications II	ENG 115 Technical Writing
C243 Technical Communications III	CST 100 Principles of Public Speaking
D241 Parametric Solid Modeling I (TNCC)	CAD 241 Parametric Solid Modeling I
D243 Shipbuilding Design Project	MAR 215 Applied Naval Architecture
E231 Principles of Lasers & Fiber Optics I (TNCC)	ETR 231 Principles of Lasers & Fiber Optics I (Substitute for ETR 286 Principles and Applications of Robotics)
E262 Microprocessor Application I (TNCC)	ETR 261 Microprocessor Application I
E279 Digital Principles, Terms, & Applications (TNCC)	ETR 279 Digital Principles, Terms, & Applications
M113 Materials and Processes of Industry (TNCC)	MEC 113 Materials and Processes of Industry

Course Transfer Agreement
June 2010

NGSB APPRENTICE SCHOOL Engineering Technology (continued)	THOMAS NELSON CC
M131 Mechanics I - Statics for Engineering Technology (TNCC)	MEC 131 Mechanics I - Statics for Engineering Technology
M132 Mechanics II - Strength of Materials for Engineering Technology (TNCC)	MEC 132 Mechanics II - Strength of Materials for Engineering Technology
N236 Marine Engineering and O233 Shipbuilding Operations	MAR 212 Naval Architecture II
N237 Naval Architecture	MAR 211 Naval Architecture I
TNCC indicates course taught by Thomas Nelson Community College for The Apprentice School.	

Course Transfer Agreement
June 2010

NGSB APPRENTICE SCHOOL Business Administration	THOMAS NELSON CC
A211 Principles of Accounting I (TNCC)	ACC 211 Principles of Accounting I
A212 Principles of Accounting II (TNCC)	ACC 212 Principles of Accounting II
B117 High Performance Work Teams (TNCC)	BUS 117 Leadership Development
B209 Total Quality Management (TNCC)	BUS 209 Continuous Quality Improvement
B215 Production Planning	Business Elective
B216 Probability & Statistics for Business & Economics (TNCC)	BUS 216 Probability & Statistics for Business & Economics
C243 Technical Communications III	CST 100 Principles of Public Speaking
E202 Principles of Economics II (TNCC)	ECO 202 Principles of Economics II
E241 Survey of American Literature (TNCC)	ENG 241 Survey of American Literature
H122 United States History II (TNCC)	HIS 122 United States History II
O233 Shipbuilding Operations	
TNCC indicates course taught by Thomas Nelson Community College for The Apprentice School.	

Course Transfer Agreement
June 2010

NGSB APPRENTICE SCHOOL	THOMAS NELSON CC
Electrical Theory	
X311 DC Theory	ETR 104 Electronics Fundamentals with
X312 AC Theory	Computer Applications
X311 Applied Theory I: DC Concepts	ETR 113 & 114 - DC & AC Fundamentals I and II
X312 Applied Theory II: AC Concepts	
X313 Applied Theory III: Polyphase Systems &	
Controls	
X314 Static Controls	ETR 148 Amplifiers and Integrated Circuits
	ETR 250 Solid State Devices
X315 Digital Electronics	
X313 Applied Theory III Polyphase Systems &	ELE 239 Programmable Controllers
Controls	
X316 Programmable Logic Controllers	

Course Transfer Agreement
June 2010

NGSB Apprentice School Modeling & Simulation	Thomas Nelson CC
C221 College Chemistry I (TNCC)	CHM 111 College Chemistry I
C232 Technical Communications II	ENG 115 Technical Writing
D211 Advanced Technical Drafting I (TNCC)	CAD 211 Advanced Technical Drafting I
D241 Parametric Solid Modeling I (TNCC)	CAD 241 Parametric Solid Modeling I
D295 Modeling & Simulation Using Inventor (TNCC)	CAD 295 Modeling & Simulation Using Inventor
E061 Introduction to Modeling and Simulation	SIM 201 Modeling and Simulation I
E062 Modeling and Simulation Applied	SIM 202 Modeling and Simulation II
E202 Principles of Economics II (TNCC)	ECO 202 Principles of Economics II
M240 Statistics (TNCC)	MTH 240 Statistics
M287 Mathematical Structures (TNCC)	MTH 287 Mathematical Structures
M113 Materials and Processes of Industry (TNCC)	MEC 113 Materials and Processes of Industry
M131 Mechanics I - Statics for Engineering Technology (TNCC)	MEC 131 Mechanics I - Statics for Engineering Technology
M132 Mechanics II - Strength of Materials for Engineering Technology (TNCC)	MEC 132 Mechanics II - Strength of Materials for Engineering Technology
TNCC indicates course taught by Thomas Nelson Community College for The Apprentice School.	
NGSB Apprentice School Other	**Thomas Nelson CC**
One-year Participation in Varsity Athletics (Documented by Director of Athletics)	Health or Physical Education Elective (One credit per year of varsity athletic competition)

Technical Studies (Engineering Technology) REVISED

Associate in Applied Science Degree in Technical Studies with Specialization in Engineering Technology

Purpose: Developed with support of business and industry, this degree combines the areas of knowledge expected of the industrial engineering technician. Graduates have a broad skill base that is desirable in a variety of employment opportunities, including manufacturing and shipbuilding. This degree program provides credit for work-based learning obtained through an apprenticeship program with an industry partner. New students should have employment in an apprenticeship program approved in Virginia prior to entering the program.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see **Developmental Studies.**

For more information contact the **Division of Engineering, Science and Allied Health** in room 321 of Hastings Hall, 757/825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
PHI 220	Ethics	3
---	Social Science Electives[1]	6
MTH 115 or MTH 158	Technical Mathematics I College Algebra	3
HLT/PED	Health or Physical Education Elective (s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**18**

MAJOR and OTHER COURSES

Course #	Course Title	Credits
ENG 115	Technical Writing	3
CAD 151	Engineering Drawing Fundamentals	3
PHY 201	College Physics	4
MEC 100 or MAR 120	Introduction to Engineering Technology Introduction to Ship Systems	2/3
ITE 115or CSC 200	Introduction to Computer Applications & Concepts Introduction to Computer Science	3
ITE 140 or IND 181	Spreadsheet Software World Class Manufacturing I	3
IND 140 or BUS 209	Quality Control Continuous Quality Improvement	2/3
BUS 200 or BUS 117	Principles of Management Leadership Development	3
ELE 150 or ETR 104	A.C. and D.C. Circuit Fundamentals Electronic Fundamentals with Computer Applications	3/4
----	Electives[2]	6
IND 297	Cooperative Education/Internships	15
	Total Major and Other Course Credits	**47/50**
	Total Minimum Credits	**65/68**

Possible Career Opportunities

Industrial technicians; Engineering technicians; Marine technicians

[1] Select from: ECO 201, PSY 200 or one History course selected from HIS 101-102, HIS 111-112, or HIS 121-122.
[2] Electives may be selected from: ETR, MEC, IND, MAR, PHY 202, PHY 199(lab), MTH 116, MTH 240, MEC 113, ELE 239.

Thomas Nelson Community College

Technical Studies (Engineering Technology)

Associate in Applied Science Degree in Technical Studies with Specialization in Engineering Technology

Apprentice School	VCCS	VCCS Credit Hour	Added VCCS Cr. Hrs.
WCSC			
M111 Technical Math I	MTH 115 Technical Math I	3	
N111 Ship Construction I + N222 - Ship Construction II	MAR 120 Intro to Ship Systems	3	
C211 Introduction to Computers	ITE 115 Intro to Computer Appl. & Concepts	3	
O111 Drafting *	CAD 151 Eng Drawing Fundamentals I	3	
B112 Problem Solving + B122 Bus Ops & Leadership	BUS 200 Principles of Management	3	
P221 Physical Science I+ P222 Physical Science II + 199L*	PHY 201	4	1
		19	
Pre-Advanced (PA)			
Courses currently offered as part of PA	ENG 111 College Composition I	3	3
	PHI 220 Ethics	3	3
	ECO 201 Principles of Macroeconomics	3	3
	HIS 121 United States History I	3	3
	HLT 210 Workplace Stress Management	2	2
	SDV 100 College Success Skills	1	1
		15	
Advanced Tech (AT)			
Combination of courses currently offered in WCSC/Advanced and courses offered specifically for Advanced Tech path	IND 181 World Class Manufacturing I *or* ITE 140 Spreadsheet Software		
C232 Technical Communications II	ENG 115 Technical Writing	3	3
	BUS 209 Continuous Quality Improvement	3	
	ELE 150 A.C. & D.C. Circuit Fundamentals	3	3
M112 Technical Math II	MEC 113 Materials and Processes of Industry	3	3
	MTH 116 Technical Math II	3	3
		18	
Work-Based Learning			
Recorded by Craft Documentation Record (CDR). Credit awarded upon completion of apprenticeship.	IND 297 (X5)	15	
		15	
	Total Credit Hour =	**67**	**28**