

# Academic Credit Agreement

## Tidewater Community College

- **AS in Business Administration**
- **AAS in Computer Aided Drafting & Design**
- **AAS in Electronics Technology**
- **AAS in Industrial Technology**



For further assistance, contact Student Services at 688-9066

**BUSINESS ADMINISTRATION (213)**  
Associate of Science Degree  
2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
CST 100 – Principles of Public Speaking	3	C243
ENG 111-112 – College Composition I-II	6	
Health/Physical Education Elective <sup>1</sup>	1	See footnote 5
History Elective <sup>3</sup>	3	
Humanities Electives <sup>1</sup>	6	
MTH 163 – Precalculus I	3	
MTH 270 – Applied Calculus	3	
Science with Lab Electives <sup>1</sup>	8	
SDV 100 – College Success Skills	1	
<i>Major and Other Courses</i>		
ACC 211 – Principles of Accounting I	3	
ACC 212 – Principles of Accounting II	3	
BUS 216 – Probability and Statistics for Business and Economics	3	B216
BUS 280 – Introduction to International Business (or ECO 210 – International Economics)	3	
ECO 201 – Principles of Macroeconomics	3	
ECO 202 – Principles of Microeconomics	3	
Approved Electives <sup>2</sup>	9	C232 (for ENG 131), C201 (for ITP 100), C210 (for ITP 132)
<b>Total Credits</b>	<b>61</b>	

- 1 Eligible courses are listed on page 28 in the 2012-2013 catalog. Students should consult an academic advisor or counselor to choose the appropriate course(s).
- 2 Consult transfer institution to ensure that the elective is appropriate for the intended transfer program. For students transferring into a general business degree program, select courses from the following: BUS 100, ENG 131, ITP 100, ITP 132, PLS 241. For students transferring into an international business degree program, select courses from the following: ECO 210, GEO 210, GEO 220, GEO 225, HIS 280, PLS 241, PLS 242, REL 230.
- 3 Students may select any of the following courses to meet this requirement: HIS 101, 102, 111, 112, 121, or 122.
- 4 Students may substitute CST 110 for CST 100. Consult transfer institution to ensure that the substitution is appropriate for intended transfer program.
- 5 One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.

Tidewater Community College

The Apprentice School—Newport News  
Shipbuilding

Daniel DeMarte

Daniel T. DeMarte, Vice President for  
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11/21/12

Date

James H. Hughes

Dr. James H. Hughes  
Manager, Training

01-14-2013

Date

## COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY (729)

Associate of Applied Science Degree  
2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 4
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
PHY 201 – General College Physics I <sup>3</sup> (or Approved Technical Elective <sup>2</sup> )	4	
PHY 202 – General College Physics II <sup>3</sup> (or Approved Technical Elective <sup>2</sup> )	4	
SDV 100 – College Success Skills	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
CAD 151 – Engineering Drawing Fundamentals I	3	D111
CAD 152 – Engineering Drawing Fundamentals II	3	
CAD 201 – Computer-Aided Drafting and Design I	4	
CAD 202 – Computer-Aided Drafting and Design II	4	
CAD 211 – Advanced Technical Drafting I	3	
CAD 212 – Advanced Technical Drafting II	3	
CAD 241 – Parametric Solid Modeling	3	D241
CAD 280 – Design Capstone Project	3	
MEC 111 – Materials for Industry	3	M113
MEC 131 – Mechanics I-Statics for Engineering Technology	3	M131
MEC 132 – Mechanics II-Strength of Materials for Engineering Technology (or Approved Technical Elective <sup>2</sup> )	3	M132
Approved Technical Elective <sup>2</sup>	3	D243, N237, or N250
<b>Total Credits</b>	<b>67</b>	

- 1 Eligible courses are listed on page 28 in the 2012-2013 catalog. See the program head or counselor to choose the appropriate course(s).
- 2 Consult with the program head or counselor. Eligible courses for Approved Technical Elective include any ARC, CAD, or MEC courses not required in the program.
- 3 Students planning on transferring to a four-year program should take PHY 201-202 and not technical electives.
- 4 One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.

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## COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY (729.01)

Associate of Applied Science Degree

Specialization: Architectural Drafting and Design Technology

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 4
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
PHY 201 – General College Physics I <sup>3</sup> (or Approved Technical Elective <sup>2</sup> )	4	
PHY 202 – General College Physics II <sup>3</sup> (or Approved Technical Elective <sup>2</sup> )	4	
SDV 100 – College Success Skills	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
ARC 100 – Introduction to Architecture	3	
ARC 121 – Architectural Drafting I	3	
ARC 122 – Architectural Drafting II	3	
ARC 133 – Construction Methodology and Procedures I	3	
ARC 221 – Architectural CAD Applications Software I	3	
CAD 151 – Engineering Drawing Fundamentals I	3	D111
CAD 201 – Computer-Aided Drafting and Design I	4	
CAD 202 – Computer-Aided Drafting and Design II	4	
CAD 280 – Design Capstone Project	3	
MEC 131 – Mechanics I-Statics for Engineering Technology	3	M131
MEC 132 – Mechanics II-Strength of Materials for Engineering Technology (or Approved Technical Elective <sup>2</sup> )	3	M132
Approved Technical Elective <sup>2</sup>	3	D243, N237, or N250
<b>Total Credits</b>	<b>67</b>	

1 Eligible courses are listed on page 28 in the 2012-2013 catalog. See the program head or counselor to choose the appropriate course(s).

2 Consult with the program head or counselor. Eligible courses for Approved Technical Elective include any ARC, CAD, or MEC courses not required in the program.

3 Students planning on transferring to a four-year program should take PHY 201-202 and not technical electives.

4 One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.

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**ELECTRONICS TECHNOLOGY (981)**  
 Associate of Applied Science Degree  
 2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111-112 – College Composition I-II	6	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 4
Humanities Elective <sup>1</sup>	3	
MTH 166 – Precalculus with Trigonometry	5	
MTH 173 – Calculus with Analytic Geometry I	5	
PHY 201 – General College Physics I	4	
PHY 202 – General College Physics II	4	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Electives <sup>1</sup>	3	
<i>Major and Other Courses</i>		
ETR 104 – Electronic Fundamentals with Computer Applications	4	X311 <u>and</u> X312
ETR 113 – D.C. and A.C. Fundamentals I	4	X311
ETR 114 – D.C. and A.C. Fundamentals II	4	X312
ETR 148 – Amplifiers and Integrated Circuits	4	X314 <u>A</u>
ETR 250 – Solid State Circuits	4	X314 <u>B</u>
ETR 261 – Microprocessor Application I <sup>3</sup>	4	
ETR 279 – Digital Principles, Terminology And Applications	4	E277 <u>and</u> E278
ETR 297 – Cooperative Education (or Approved Elective <sup>2</sup> )	4	X313, or X315 <u>and</u> X316
<b>Total Credits</b>	<b>65</b>	

- 1 Eligible courses are listed on page 28 in the 2012-2013 catalog. See the program head or counselor to choose the appropriate course(s).
- 2 Approved Electives must be one of the following: ETR 176, EGR 125, or CHM 111.
- 3 ETR 176 may be substituted for ETR 261.
- 4 One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.



**INDUSTRIAL TECHNOLOGY (963)**  
 Associate of Applied Science Degree  
 2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 3
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
BUS 204 – Project Management	3	
IND 101 – Quality Assurance Technology I	3	
IND 106 – Industrial Engineering Technology	3	C111
IND 115 – Materials and Processes of Industry	4	
IND 121 – Industrial Supervision I	3	B122
IND 137 – Team Concepts and Problem Solving	3	B117
IND 145 – Introduction to Metrology	3	O681
IND 146 – Statistical Quality Control	3	
IND 150 – Industrial Management	3	B215
IND 237 – Fundamentals of ISO 9000	3	
SAF 120 – Safety and Health Standards: Regulations and Codes	3	
SAF 125 – Computer Applications for Technicians	4	C211
Approved IND Elective <sup>2</sup>	3	B209
Approved IND Elective <sup>2</sup>	3	
<i>Total Credits</i>	<b>65</b>	

<sup>1</sup> Eligible courses are listed on page 28 in the 2012-2013 catalog. See the program head or counselor to choose the appropriate course(s).

<sup>2</sup> Consult with the program head or counselor. Courses must be approved by the appropriate academic dean.

<sup>3</sup> One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.

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## INDUSTRIAL TECHNOLOGY (963.04)

Associate of Applied Science Degree

Specialization: Industrial Supervision

2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 3
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
IND 101 – Quality Assurance Technology I	3	
IND 106 – Industrial Engineering Technology	3	C111
IND 115 – Materials and Processes of Industry	4	
IND 121 – Industrial Supervision I	3	B122
IND 122 – Industrial Supervision II	3	
IND 145 – Introduction to Metrology	3	O681
IND 146 – Statistical Quality Control	3	
IND 150 – Industrial Management	3	B215
IND 216 – Plant Layout and Materials Handling	3	
IND 245 – Time and Motion Study	3	
SAF 120 – Safety and Health Standards: Regulations and Codes	3	
SAF 125 – Computer Applications for Technicians	4	C211
Approved IND Electives <sup>2</sup>	6	B117, B209
<b>Total Credits</b>	<b>65</b>	

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<sup>3</sup> One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.

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## INDUSTRIAL TECHNOLOGY (963.05)

Associate of Applied Science Degree

Specialization: Quality Assurance

2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 3
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Elective <sup>1</sup>	6	
<i>Major and Other Courses</i>		
IND 101 – Quality Assurance Technology I	3	
IND 102 – Quality Assurance Technology II	3	
IND 105 – Nondestructive Inspection (NDI) and Testing	3	
IND 106 – Industrial Engineering Technology	3	C111
IND 115 – Materials and Processes of Industry	4	
IND 145 – Introduction to Metrology	3	O681
IND 146 – Statistical Quality Control	3	
IND 150 – Industrial Management	3	B215
IND 236 – Total Quality Concepts	3	B209
IND 237 – Fundamentals of ISO 9000	3	
SAF 120 – Safety and Health Standards: Regulations and Codes	3	
SAF 125 – Computer Applications for Technicians	4	C211
Approved IND Elective <sup>2</sup>	3	B122
Approved IND Elective <sup>2</sup>	3	B117
<b>Total Credits</b>	<b>65</b>	

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<sup>3</sup> One year participation in NNS athletics, documented by NNS Director of Athletics, is equivalent to one semester hour credit.

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**INDUSTRIAL TECHNOLOGY (963.06)**  
 Associate of Applied Science Degree  
 Specialization: Industrial Manufacturing Engineering Technology  
 2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 3
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
BUS 204 – Project Management	3	
IND 101 – Quality Assurance Technology I	3	
IND 115 – Materials and Processes of Industry	4	
IND 145 – Introduction to Metrology	3	O681
IND 146 – Statistical Quality Control	3	
IND 150 – Industrial Management	3	B215
IND 160 – Introduction to Robotics	3	
IND 216 – Plant Layout and Materials Handling	3	
IND 245 – Time and Motion Study	3	
IND 251 – Automated Manufacturing Systems I	3	
SAF 120 – Safety and Health Standards: Regulations and Codes	3	
SAF 125 – Computer Applications for Technicians	4	C211
Approved IND Electives <sup>2</sup>	6	C111, B122, B117, B209
<b>Total Credits</b>	<b>65</b>	

1 Eligible courses are listed on page 28 in the 2012-2013 catalog. See the program head or counselor to choose the appropriate course(s).

2 Consult with the program head or counselor. Courses must be approved by the appropriate academic dean.

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Tidewater Community College

The Apprentice School—Newport News  
Shipbuilding

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11/21/12  
Date

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11-27-2012  
Date



**INDUSTRIAL TECHNOLOGY (963.10)**  
 Associate of Applied Science Degree  
 Specialization: Industrial Maintenance Technology  
 2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 3
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
BUS 204 – Project Management	3	
IND 101 – Quality Assurance Technology I	3	
IND 105 – Nondestructive Inspection (NDI) And Testing	3	
IND 115 – Materials and Processes of Industry	4	
IND 145 – Introduction to Metrology	3	O681
IND 146 – Statistical Quality Control	3	
IND 150 – Industrial Management	3	B215
IND 165 – Principles of Industrial Technology I	4	
IND 166 – Principles of Industrial Technology II	4	
SAF 120 – Safety and Health Standards: Regulations and Codes	3	
SAF 125 – Computer Applications for Technicians	4	C211
SAF 135 – Safety Program Organization and Administration	3	
Approved IND Electives <sup>2</sup>	6	C111, B122, B117, B209
<b>Total Credits</b>	<b>67</b>	

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2 Consult with the program head or counselor. Courses must be approved by the appropriate academic dean.

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11/27/2012

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## INDUSTRIAL TECHNOLOGY (963.12)

Associate of Applied Science Degree

Specialization: Occupational Safety

2012-2013 Catalog

Tidewater Community College	Credits	The Apprentice School Newport News Shipbuilding
<i>General Education Courses</i>		
ENG 111 – College Composition I	3	
Health/Physical Education Elective <sup>1</sup>	2	See footnote 3
Humanities Elective <sup>1</sup>	3	
MTH 163 – Precalculus I	3	
MTH 164 – Precalculus II	3	
SDV 101 – Orientation to Engineering and Technologies	1	
Social Science Electives <sup>1</sup>	6	
<i>Major and Other Courses</i>		
IND 101 – Quality Assurance Technology I	3	
IND 115 – Materials and Processes of Industry	4	
IND 145 – Introduction to Metrology	3	O681
IND 146 – Statistical Quality Control	3	
IND 150 – Industrial Management	3	B215
IND 245 – Time and Motion Study	4	
SAF 120 – Safety and Health Standards: Regulations and Codes	3	
SAF 125 – Computer Applications for Technicians	4	C211
SAF 126 – Principles of Industrial Safety	3	
SAF 135 – Safety Program Organization and Administration	3	
SAF 205 – Human Factors and Safety Psychology	3	
SAF 246 – Hazardous Chemicals, Materials, and Waste in the Workplace	3	
Approved IND/SAF Electives <sup>2</sup>	6	C111, B122, B117, B209
<b>Total Credits</b>	<b>65</b>	

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