

## Northern Virginia Community College 2009-2010 Catalog

### ENGINEERING

Associate of Science Degree

AN

*Purpose:* The curriculum is designed to prepare the student to transfer into a baccalaureate degree program in engineering fields such as mechanical engineering, civil engineering, chemical engineering, aeronautical engineering, and naval architecture/marine engineering.

*Transfer Information:* Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of transfer institution. The responsibility for proper course selection rests with the student.

*Recommended Preparation:* High school courses: 4 units of English, 2 units of algebra, 1 unit of geometry, 1 unit of trigonometry, 1 unit of laboratory science (chemistry or physics).

*Completion Requirements:* Grades of C and above are required in courses intended to be transferred for credit to a baccalaureate degree-granting college/university.

Two Years		Credits
<b>1st Semester</b>		
CHM	111 College Chemistry I	4
EGR	120 Introduction to Engineering	2
ENG	111 College Composition I	3
MTH	173 Calculus with Analytic Geom. I	5
SDV	Elective	1
<sup>1</sup> ____	Social Science Elective	<u>3</u>
<b>Total</b>		<b>18</b>
<b>2nd Semester</b>		
EGR	126 Computer Programming for Engineers	3
<sup>2</sup> ENG	112 College Composition II	3
MTH	174 Calculus with Analytic Geom. II	5
<sup>3</sup> PED	116 Lifetime Fitness & Wellness	1
PHY	231 General University Physics I	<u>5</u>
<b>Total</b>		<b>17</b>
<b>3rd Semester</b>		
<sup>4</sup> CST	Elective	3
EGR	240 Solid Mechanics (Statics)	3
MTH	277 Vector Calculus	4
<sup>3</sup> PED/RPK	Elective	1
<sup>1</sup> ____	Social Science Elective	<u>3</u>
<b>Total</b>		<b>14</b>
<b>4th Semester</b>		
<sup>5</sup> EGR	Elective	2-3
EGR	245 Engineering Mechanics - Dynamics	3
<sup>6</sup> EGR	246 Mechanics of Materials	3
<sup>7</sup> ____	Humanities/Fine Arts Elective	3
PHY	232 General University Physics II	<u>5</u>
<b>Total</b>		<b>16-17</b>

**Total credits for the A.S. Degree in Engineering = 65-66**

*Continued...*

## ENGINEERING A.S.

<sup>1</sup> The social science elective may be selected from the social/behavioral sciences courses listed under General Education Electives.

<sup>2</sup> ENG 125 may be substituted with the advice of a counselor or faculty advisor according to requirements of transfer institutions.

<sup>3</sup> The PED requirement may be met by one of the following options: PED 116, 2 cr.; PED 116, 1 cr. plus a PED activities course, 1 cr.; or PED 116, 1 cr. plus RPK activities course. PED 116 is offered as both a 1-credit and a 2-credit course.

<sup>4</sup> The CST elective may be selected from the following: CST 100, 110, 115, 126, 227 or 229.

<sup>5</sup> EGR 206 (2 credits) required at Va. Tech and desirable elsewhere.

<sup>6</sup> EGR 251 can be substituted for EGR 246.

The following courses are not required for the A.S. degree; however, completion of them may be desirable for transfer as a junior in Engineering. Consult the requirements of your transfer institution.

CHM112 College Chemistry II	4
<sup>5</sup> EGR Elective	2-3
MTH285 Linear Algebra	3
MTH291 Differential Equations	3
<sup>8</sup> MTH292 Topics in Differential Equations	3

<sup>7</sup> Humanities/fine arts elective may be selected from the humanities/fine arts courses listed under General Education Electives. Elective should be selected with advice of a counselor or faculty advisor to meet requirements of transfer institution.

<sup>8</sup> MTH 292 not recommended for students who plan to transfer to GMU.