

## Northern Virginia Community College 2008-2009 Catalog

### SCIENCE

Associate of Science Degree

AL, AN, LO, MA, WO

*Purpose:* The curriculum is designed for persons who are interested in a professional or scientific program and who plan to transfer to a four-year college or university to complete a baccalaureate degree program with a major in one of the following fields: agriculture, biology, chemistry, pre-dentistry, forestry, geology, home economics, nursing, oceanography, pharmacy, physics, physical therapy, pre-medicine, science education, or mathematics.

*Transfer Information:* Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully after investigation of requirements of the institution to which transfer is intended. The responsibility for proper course selection rests with the student. Students are encouraged to complete the A.S. degree before transferring.

*Recommended Preparation:* Satisfactory completion of the following high school units or equivalent as a minimum: 4 units of English, 3 units of college preparatory mathematics, 1 unit of laboratory science, and 1 unit of social science.

<b>Two Years</b>		<b>Credits</b>
<b>1st Semester</b>		
CSC	110 Introduction to Computing	3
ENG	111 College Composition I	3
<sup>1</sup> HIS	Elective	3
<sup>2</sup> MTH	271 Applied Calculus I or MTH 173 Calc./Analytic Geom. I	3-5
<sup>3,4</sup> ___	Science with Laboratory	4
SDV	Elective	<u>1</u>
	<b>Total</b>	<b>17-19</b>
<b>2nd Semester</b>		
<sup>5</sup> ENG	112 College Composition II	3
<sup>2</sup> MTH	272 Applied Calculus II or MTH 174 Calc./Analytic Geom. II	3-5
<sup>6</sup> PED	116 Lifetime Fitness & Wellness	1
<sup>6</sup> PED/RPK	Elective	1
<sup>3,4</sup> ___	Science with Laboratory	4
<sup>7</sup> ___	Social Science Elective	<u>3</u>
	<b>Total</b>	<b>15-17</b>
<b>3rd Semester</b>		
___	General Elective	3
<sup>8</sup> ___	Humanities/Fine Arts Elective	3
<sup>3,4</sup> ___	Science with Laboratory	4
<sup>3,4</sup> ___	Science with Laboratory	4
<sup>7</sup> ___	Social Science Elective	<u>3</u>
	<b>Total</b>	<b>17</b>
<b>4th Semester</b>		
<sup>8</sup> ___	Humanities/Fine Arts Elective	3
<sup>3,4</sup> ___	Science with Laboratory	4
<sup>3,4</sup> ___	Science with Laboratory	4
SPD	110 Intro. to Speech Communication	<u>3</u>
	<b>Total</b>	<b>14</b>

**Total credits for the A.S. Degree in Science = 63-67.**

Twenty-four of these credits must be taken in laboratory science courses for transfer to a four-year institution with a major in Science.

<sup>1</sup> HIS 101, 102, 121 or 122 is recommended. Although not required, students are encouraged to take a two-semester sequence in history, depending on the requirements of the transfer institution.

<sup>2</sup> MTH 173-174 is required for students planning a four-year major in Physics or Chemistry. MTH 271 plus one semester of statistics may be taken by Biology majors. Students not adequately prepared for MTH 173 may be required to take MTH 166 or MTH 163-164. Students must see their counselor/advisor before choosing a math as transfer institutions have a wide range of requirements.

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## SCIENCE A.S.

<sup>3</sup> Sciences (with laboratories) may be selected from the following: BIO 101-102, BIO 107, BIO 110, BIO 120, or BIO 141-142, CHM 111-112, PHY 201-202, PHY 231-232, PHY 241-242, PHY 243, GOL 105-106, or any 200-level biology, chemistry, geology, or physics course.

<sup>4</sup> Students who plan to major in Chemistry should elect CHM 111-112 and CHM 241-242 and CHM 245-246 plus 2 two-semester sequences from the following: BIO 101-102, BIO 110, BIO 120, GOL 105-106, GOL 111-112, or any 200-level biology, chemistry, geology, or physics course. Students who plan to major in Physics and Engineering should select PHY 231-232 or PHY 241-242 plus CHM 111-112 and 1 two-semester sequence from the following BIO 101-102, BIO 110-120, GOL 105-106, GOL 111-112, or any 200 level Biology, Chemistry, or Geology course (physics majors include PHY 243). Math requirement: MTH 173-174. MTH 277, MTH 285, MTH 291-292.

<sup>5</sup> ENG 125 may be substituted with the advice of a counselor or faculty advisor according to requirements of transfer institutions.

<sup>6</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>7</sup> The social science elective may be selected from the social/behavioral sciences courses listed under General Education Electives. Base selection on requirements of transfer institution.

<sup>8</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.