

**ENGINEERING SCIENCE AND TECHNOLOGIES  
ADVANCED SCIENCE AND MATHEMATICS STUDIES  
(ASM)  
(HEGIS 5310)  
(Applied Academic Certificate)**

This certificate program, designed with SUNY New Paltz, prepares students with an AAS degree in Electrical Engineering Technology from Dutchess Community College to enter at Junior level status in the Electrical or Computer Engineering programs at SUNY New Paltz. Students who have achieved a 2.5 GPA in the certificate program detailed below will be accepted directly in to the fifth semester of the eight semester engineering programs offered at New Paltz.

The objective of this joint venture is to provide the citizens/students of the Mid-Hudson Valley region a quality, cost effective, geographically convenient career path for those technology graduates who would like to proceed to an engineering degree.

The certificate program is geared towards students graduated from the AAS general electrical engineering technology (ELT) program. The prerequisites for this certificate are:

- (i) AAS degree in ELT program, ELT 215 with a grade of C or better, and a grade of C or better in MAT 221 Analytic Geometry and Calculus I (5 year limit), or
- (ii) greater than 3.0 GPA in AAS degree in ELT program, ELT 215 with grade of B or better and a grade of C or better in in MAT 221 Analytic Geometry and Calculus I (5 year limit).

Students considering this path should elect to take MAT 221 Analytic Geometry and Calculus I as their free elective while in the AAS ELT program.

<u>Course No.</u>	<u>Descriptive Title</u>	<u>Cr.Hrs.</u>
<u>SUMMER SEMESTER</u>		
MAT 222	Analytic Geometry and Calculus II	<u>4</u>
	TOTAL	4
<u>FALL SEMESTER</u>		
MAT 223	Analytic Geometry and Calculus III	4
CPS 141	Introduction to Computer Science	4
CHE 121	General Chemistry I	4
	General Education Requirement (a)	<u>3</u>
	TOTAL	15
<u>SPRING SEMESTER</u>		
MAT 224	Ordinary Differential Equations	4
CPS 142	Advanced Programming Techniques	3
PHY 152	Engineering Physics II (b)	4
	General Education Requirement (a)	<u>3</u>
	TOTAL	14
	TOTAL 33 CREDIT HOURS	

a. Courses to be used for this requirement include all courses from the DCC SUNY General Education Appendices in the following categories: American History (Appendix D), Western Civilization (Appendix E), Other World Civilization (Appendix F), The Arts (Appendix H) and Humanities (Appendix G—one course must be selected from Appendix G in addition to ENG 102) With the exception of an additional course in Humanities (Appendix G), students should not select a course from a category previously met.

b. The prerequisites for PHY 152 must be met as indicated in the college catalog course description. Students matriculated in the Advanced Science and Mathematics Studies Certificate Program can alternatively meet the following prerequisites: MAT 223, PHY 121 and CHE 121.

**ENGINEERING SCIENCE AND TECHNOLOGIES  
AIR CONDITIONING AND REFRIGERATION  
TECHNOLOGY (ACR)  
(HEGIS 5317)  
(Applied Academic Certificate)**

This program prepares men and women for employment in the field of commercial Air Conditioning and Refrigeration. The graduate is qualified for entry level positions in installation, repair, and maintenance of equipment in use by food markets, food processors, office buildings, apartment buildings, manufacturing plants, schools, etc. In addition, positions are available in design, sales and distribution. It is recommended that those who wish to consider air conditioning and refrigeration as a career complete high school courses in such related areas as electricity, metal working, machine shop, plumbing/heating, and blueprint reading.

**A Certificate is awarded upon completion of the requirements for this program.**

Courses should be selected in consultation with an advisor.

<u>Course No.</u>	<u>Descriptive Title</u>	<u>Cr. Hrs.</u>
<u>FIRST SEMESTER</u>		
MAT 131	Technical Math I	3
ACR 101	Air Conditioning and Refrigeration I	8
ENT 131	Technical Drawing	<u>1</u>
	TOTAL	12
<u>SECOND SEMESTER</u>		
ENG 101	Composition I	3
ACR 102	Air Conditioning and Refrigeration II	<u>8</u>
	TOTAL	11
	TOTAL 23 CREDIT HOURS	

Students requiring full time status should consider enrolling in PHS 103, PHS 107, BUS 104, or other courses in their area of interest.