NVCC Engineering (AS) Degree 2019-20				Aero/Ocean		Bio					Chemical		
Semester 1				**VT**	**UVA**	**GMU - BioEngineeirng**	**UVA - BioMedical Eng.**	**VT - BioScience**	**VT-BioMedical**	**UDC - BioMedical**	**VT**	**VCU**	**UVA**
SDV	100	College Success Skills	1										
ENG	111	College Composition I	3										
CST		Communication Elective	3			CST 100							
MTH	263	Calculus with Analytic Geometry I	4										
		Social Science Elective	3	ECO 202		PSY200, SOC200, ECO202							
		Humanities/Fine Arts Elective	3										
EGR	121	Foundations of Engineering	2		*Note 1*		*Note 1*						*Note 1*
			19										
Semester 2													
ENG	112	College Composition II	3										
MTH	264	Calculus with Analytic Geometry II	4										
PHY	231	General University Physics I	5										
		Engineering/Technical Elective A	3-4	CHM 111	CHM 111	CHM111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111
			15-16										
Semester 3													
MTH	265	Vector Calculus	4										
PHY	232	General University Physics II	5										
		Engineering/Technical Elective B	3	EGR 240	EGR 240	CHM 112	CSC 201	CHM 112	EGR 240	EGR 240	CHM 112	CHM 112	EGR 126 or CSC 201
		Engineering/Technical Elective C	2-3	EGR 122	EGR 126/CSC201	MTH 266	CHM 112	EGR 122	EGR 122	EGR 122	EGR 122	EGR 126	CHM 112
		Social Science Elective	3										
			17-18										
Semester 4													
MTH	267	Differential Equations	3		*Note 2*		*Note 2*						*Note 2*
		Engineering/Technical Elective D	3-4	EGR 245	EGR 245	CHM 241	CSC 202	EGR 240	BIO 101	EGR 246	CHM 241	CHM 241	CHM 241
		Engineering/Technical Elective E	1-3	EGR 246	EGR 246		MTH 266*	EGR 245	EGR 246	MTH 266	CHM 245	CHM 245	CHM 245
		Engineering/Technical Elective F	3-4	MTH 266	MTH 266*	CSC 201	CSC 205	EGR 206	MTH 266	BIO 101	MTH 266	MTH 266	
		Humanities/Fine Arts Elective	3										
			13-17										
Extra Courses that NOVA offers that will transfer in the dicipline					EGR 248	BIO 206**		BIO 101	EGR 245	EGR 245	CHM 242	CHM 242	CHM 242
								BIO 102**	EGR 126	EGR 126	CHM 246	CHM 246	
Advising Notes:				Note: EGR 122 is a pre-requiste for first semseter coures at VT.	Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131 *Students will need to take a 1 credit UVA bridge coures to earn credit for APMA 3081.	Encourage students to join ADVANCE to fill the remaining course slots with GMU courses. **This course will transfer but is not on the Engienering Technical Electives list due to hidden pre-reqs. A student can transfer this course to the institution but the pre-reqs will not complete an "Engineering/Technical Elective" requirement.	Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131 *Students will need to take a 1 credit UVA bridge coures to earn credit for APMA 3081.	**This course will transfer but is not on the Engienering Technical Electives list due to hidden pre-reqs. A student can transfer this course to the institution but the pre-reqs will not complete an "Engineering/Technical Elective" requirement.					Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131.

Engineering/Technical Electives

- BIO 101 - 4 cr
- CHM 111 - 4cr
- CHM 112 - 4cr
- CHM 241 - 3cr
- CHM 245- 2cr
- CHM 242 - 3cr
- CHM 246- 2cr
- CIV 240 - 3cr
- CIV 280 - 3cr
- CIV 225/226 - 2/1cr
- CSC 201 - 4cr
- CSC 202 - 4cr
- CSC 205 - 3 cr
- EGR 115 - 2 cr
- EGR 126 - 3cr
- EGR 206 - 2cr
- EGR 240 - 3cr
- EGR 245 - 3cr
- EGR 246 - 3cr
- EGR 248 - 3cr
- EGR 251 - 3cr
- EGR 252 - 3cr
- EGR 255 - 1cr
- EGR 265 - 4 cr
- EGR 295 - 3cr
- GOL 105 - 3 cr
- MTH 266 - 3cr LinAlg
- MTH 288 - 3cr DiscMa
- PHY 243 - 4cr

NVCC Engineering (AS) Degree 2019-20				Civil					Computer						Computer Science		
Semester 1				**GMU**	**VT**	**ODU**	**UVA**	**UDC**	**GMU**	**VT**	**ODU**	**VCU**	**UVA**	**UDC**	**VT**	**UVA**	**UDC**
SDV	100	College Success Skills	1														
ENG	111	College Composition I	3														
CST		Communication Elective	3	CST 100		CST100, 110			CST 100						CST 100		
MTH	263	Calculus with Analytic Geometry I	4														
		Social Science Elective	3	ECO 202					ECO 202								
		Humanities/Fine Arts Elective	3														
EGR	121	Foundations of Engineering	2				*Note 1*						*Note 1*			*Note 1*	
			19														
Semester 2																	
ENG	112	College Composition II	3														
MTH	264	Calculus with Analytic Geometry II	4														
PHY	231	General University Physics I	5														
		Engineering/Technical Elective A	3-4	CHM111	CHM 111	CHM111	CHM 111	CHM 111	CSC 201	CHM 111	CHM111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111	CSC 130*
			15-16														
Semester 3																	
MTH	265	Vector Calculus	4														
PHY	232	General University Physics II	5														
		Engineering/Technical Elective B	3	CIV225/226	EGR 206	EGR126	EGR 126	EGR 240	MTH 266	EGR126	EGR126	EGR 126	CSC 201	EGR 251	CSC 201	CSC 201	CSC 201
		Engineering/Technical Elective C	2-3	EGR240	EGR 240	EGR240	EGR 240	EGR 126	EGR 251	EGR251		EGR 251	EGR 251	CSC 201	EGR 122	MTH 288	MTH 288
		Social Science Elective	3														
			17-18														
Semester 4																	
MTH	267	Differential Equations	3				*Note 2*						*Note 2*			*Note 2*	
		Engineering/Technical Elective D	3-4	CIV240	MTH 266	EGR 245	BIO 101	BIO 101/CHM 112	EGR 252	EGR 252	CHM112	EGR 252	MTH 288	MTH 288	CSC 202	CSC 202	CSC 202
		Engineering/Technical Elective E	1-3	EGR246	EGR 246	EGR 246	EGR 246	EGR 245	EGR 255	EGR255		EGR 255	EGR 255	EGR 255	MTH 266	CSC 205	MTH 266
		Engineering/Technical Elective F	3-4	CIV 280	EGR 122	CHM 112	MTH 266*	EGR 246	CSC 202	EGR 122		MTH 266	CSC 202	CSC 202	MTH 288	CHM 112 or BIO 10	CSC 206*
		Humanities/Fine Arts Elective	3														
			13-17														
Extra Courses that NOVA offers that will transfer in the dicipline				BIO 102**					MTH 288	MTH 266		EGR 206	EGR 265	EGR 240			
Advising Notes:				**This course will transfer but is not on the Engienering Technical Electives list due to hidden pre-reqs. A student can transfer this course to the institution but the pre-reqs will not complete an "Engineering/Technical Elective" requirement.		Note 1: Choose between SOC 210, SOC 211, SOC 212, SOC 236	Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131 *Students will need to take a 1 credit UVA bridge coures to earn credit for APMA 2131		Note 1: Should encourage students to join ADVANCE to take GMU's ECE 101 course. This should be taken before EGR 251.	Note: EGR 126 is a pre-requiste for first semseter coures at VT.			Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131.			Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131.	*Not on the list of approved electives. Students will need to get a substitution

Engineering/Technical Electives

- BIO 101 - 4 cr
- CHM 111 - 4cr
- CHM 112 - 4cr
- CHM 241 - 3cr
- CHM 245- 2cr
- CHM 242 - 3cr
- CHM 246- 2cr
- CIV 240 - 3cr
- CIV 280 - 3cr
- CIV 225/226 - 2/1cr
- CSC 201 - 4cr
- CSC 202 - 4cr
- CSC 205 - 3 cr
- EGR 115 - 2 cr
- EGR 126 - 3cr
- EGR 206 - 2cr
- EGR 240 - 3cr
- EGR 245 - 3cr
- EGR 246 - 3cr
- EGR 248 - 3cr
- EGR 251 - 3cr
- EGR 252 - 3cr
- EGR 255 - 1cr
- EGR 265 - 4 cr
- EGR 295 - 3cr
- GOL 105 - 3 cr
- MTH 266 - 3cr LinAlg
- MTH 288 - 3cr DiscMa
- PHY 243 - 4cr

NVCC Engineering (AS) Degree 2019-20				Construction Eng & Mang.	Cyber	Electrical					Materials
Semester 1				**VT**	**GMU**	**GMU**	**VT**	**VCU**	**UVA**	**UDC**	**VT**
SDV	100	College Success Skills	1								
ENG	111	College Composition I	3								
CST		Communication Elective	3		CST 100	CST 100					
MTH	263	Calculus with Analytic Geometry I	4								
		Social Science Elective	3	ECO 201	ECO 202	ECO 202		PHI 220			ECO 202
		Humanities/Fine Arts Elective	3								
EGR	121	Foundations of Engineering	2						*Note 1*		
			19								
Semester 2											
ENG	112	College Composition II	3								
MTH	264	Calculus with Analytic Geometry II	4								
PHY	231	General University Physics I	5								
		Engineering/Technical Elective A	3-4	CHM 111	CSC 201	*Note 1*	CHM 111	CHM 111	CHM 111	CHM 111	CHEM 111
			15-16								
Semester 3											
MTH	265	Vector Calculus	4								
PHY	232	General University Physics II	5								
		Engineering/Technical Elective B	3	EGR 240	MTH 266	CSC 201	EGR126	EGR 126	CSC 201	EGR 251	EGR 240
		Engineering/Technical Elective C	2-3	EGR 122	EGR 265	EGR251	EGR251	EGR 251	EGR 251	CSC 201	EGR 122
		Social Science Elective	3	ECO 202							
			17-18								
Semester 4											
MTH	267	Differential Equations	3						*Note 2*		
		Engineering/Technical Elective D	3-4	MTH 266		EGR 252	EGR 252	EGR 252	EGR 265	EGR 240	CHM 112
		Engineering/Technical Elective E	1-3	EGR 246		EGR 255	EGR255	EGR 255	EGR 255	EGR 255	MTH 266
		Engineering/Technical Elective F	3-4	**		MTH 266	EGR 122	MTH 266	CSC 202	PHY 243	EGR 246
		Humanities/Fine Arts Elective	3								
			13-17								
Extra Courses that NOVA offers that will transfer in the dicipline							MTH 266	EGR 206			EGR 126
											CHM 241
											CHM 245
											EGR 245
Advising Notes:				Note: EGR 122 is a pre-requisite for first semseter coures at VT. **Choose one course from the following: ACC211 or BUS 224. This course will transfer but is not on the Engienering Technical Electives list due to hidden pre-reqs. A student can transfer this course to the institution but the pre-reqs will not complete an "Engineering/Technical Elective" requirement.	Encourage students to join ADVANCE to fill the remaining course slots with GMU courses.	Note 1: Should encourage students to join ADVANCE to take GMU's ECE 101 course. This should be taken before EGR 251.	Note: EGR 122 & EGR 126 are pre-requistes for first semseter coures at VT.		Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131.		

Engineering/Technical Electives

- BIO 101 - 4 cr
- CHM 111 - 4cr
- CHM 112 - 4cr
- CHM 241 - 3cr
- CHM 245- 2cr
- CHM 242 - 3cr
- CHM 246- 2cr
- CIV 240 - 3cr
- CIV 280 - 3cr
- CIV 225/226 - 2/1cr
- CSC 201 - 4cr
- CSC 202 - 4cr
- CSC 205 - 3 cr
- EGR 115 - 2 cr
- EGR 126 - 3cr
- EGR 206 - 2cr
- EGR 240 - 3cr
- EGR 245 - 3cr
- EGR 246 - 3cr
- EGR 248 - 3cr
- EGR 251 - 3cr
- EGR 252 - 3cr
- EGR 255 - 1cr
- EGR 265 - 4 cr
- EGR 295 - 3cr
- GOL 105 - 3 cr
- MTH 266 - 3cr LinAlg
- MTH 288 - 3cr DiscMa
- PHY 243 - 4cr

NVCC Engineering (AS) Degree 2019-20				Mechanical						Mining	Systems		
Semester 1				**GMU**	**VT**	**ODU**	**VCU**	**UVA**	**UDC**	**VT**	**GMU**	**UVA**	**VT**
SDV	100	College Success Skills	1										
ENG	111	College Composition I	3										
CST		Communication Elective	3	CST 100							CST 100/110		
MTH	263	Calculus with Analytic Geometry I	4										
		Social Science Elective	3	ECO 202							ECO 202		
		Humanities/Fine Arts Elective	3										
EGR	121	Foundations of Engineering	2	EGR 122*				*Note 1*				*Note 1*	
			19										
Semester 2													
ENG	112	College Composition II	3										
MTH	264	Calculus with Analytic Geometry II	4										
PHY	231	General University Physics I	5										
		Engineering/Technical Elective A	3-4	CHM 111	CHEM 111	CHM111	CHM 111	CHM111	CHM 111	CHEM 111	CSC 201	CHM 111	CHM 111
			15-16										
Semester 3													
MTH	265	Vector Calculus	4										
PHY	232	General University Physics II	5										
		Engineering/Technical Elective B	3	CSC 201	EGR 122	EGR 126	EGR 251	EGR 126 or CSC 201	EGR 240	EGR 240	MTH 266	CSC 201	EGR 126
		Engineering/Technical Elective C	2-3	EGR 240	EGR 240	EGR240	EGR 240	EGR 240	EGR 251	EGR 122	EGR 240	MTH 266*	EGR 122
		Social Science Elective	3	HIS 102									
			17-18										
Semester 4													
MTH	267	Differential Equations	3					*Note 2*				*Note 2*	
		Engineering/Technical Elective D	3-4	EGR 245	EGR 245	EGR 245	EGR 245	EGR 245	EGR 245	EGR 246	EGR 245	MTH 288	MTH266
		Engineering/Technical Elective E	1-3	EGR 246	EGR 246	EGR 246	EGR 255	EGR 246	EGR 255	EGR 245	EGR 246	CHM 112 or BIO 101	EGR 206
		Engineering/Technical Elective F	3-4	MTH 266	MTH 266	CHM 112	EGR 246	MTH 266*	EGR 122	MTH 266	CSC 202 or CHM 111	CSC 202	EGR 240
		Humanities/Fine Arts Elective	3										
			13-17										
Extra Courses that NOVA offers that will transfer in the dicipline				EGR 248	EGR 251&255	EGR 115	EGR 248	EGR 248	EGR 246	GOL 105			EGR 245
Advising Notes:				*Students are encouraged to take EGR 122 to fulfull ME 151.	Note: MTH 266 is a prerequiste for first semester courses at VT.			Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131 *Students will need to take a 1 credit UVA bridge coures to earn credit for APMA 3081.			These courses are for the mechanical pathway in systems. If a students would like a different pathway, they should join ADVANCE.	Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 164 Note 2: Students will need to take 1 credit UVA bridge course to earn credit for APMA 2131 *Students will need to take a 1 credit UVA bridge coures to earn credit for APMA 3081.	

Engineering/Technical Electives

- BIO 101 - 4 cr
- CHM 111 - 4cr
- CHM 112 - 4cr
- CHM 241 - 3cr
- CHM 245- 2cr
- CHM 242 - 3cr
- CHM 246- 2cr
- CIV 240 - 3cr
- CIV 280 - 3cr
- CIV 225/226 - 2/1cr
- CSC 201 - 4cr
- CSC 202 - 4cr
- CSC 205 - 3 cr
- EGR 115 - 2 cr
- EGR 126 - 3cr
- EGR 206 - 2cr
- EGR 240 - 3cr
- EGR 245 - 3cr
- EGR 246 - 3cr
- EGR 248 - 3cr
- EGR 251 - 3cr
- EGR 252 - 3cr
- EGR 255 - 1cr
- EGR 265 - 4 cr
- EGR 295 - 3cr
- GOL 105 - 3 cr
- MTH 266 - 3cr LinAlg
- MTH 288 - 3cr DiscMa
- PHY 243 - 4cr