NVCC Engineering (AS) Degree 2020-21				Iron Range Engineering	Aero/Ocean		Bio				
Semester 1				Bell	VT	UVA	GMU - BioEngineeirng	VCU-BioMed	UVA - BioMedical Eng.	VT - BioScience	VT-BioMedical
SDV	100	College Success Skills	1								
ENG	111	College Composition I	3								
ENG	112	College Composition II	3								
CST		Communication Elective	3				CST 100/110				
		Social Science Elective	3	ECO 201 or 202	ECO 202		ECO 202	PHI 220			
		Social Science Elective	3				HIS 101, 102, 112				
		Humanities/Fine Arts Elective	3	No PHI 111			ENG 236, 241, 242, 251, 252, 253				
		Humanities/Fine Arts Elective	3								
MTH	263	Calculus with Analytic Geometry I	4								
MTH	264	Calculus with Analytic Geometry II	4								
MTH	265	Vector Calculus	4								
MTH	267	Differential Equations	3								
PHY	231	General University Physics I	5								
PHY	232	General University Physics II	5								
EGR	121	Foundations of Engineering	2						*Note 1*		
		Engineering/Technical Electives	Min 18 credits	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111	CHM 111
				EGR 240	EGR 122	EGR 122	CHM 112	CHM 112	EGR 122	CHM 112	EGR 240
				EGR 245	EGR 240	EGR 240	MTH 266	BIOL 101	CSC 201	EGR 122	EGR 122
				EGR 251	EGR 245	EGR 126/CSC201	CHM 241	EGR 122	CHM 112	EGR 240	EGR 126
				EGR 251	EGR 246	EGR 246	EGR 125	EGR 251	MTH 266	EGR 245	EGR 246
				BIO 101, CHM 112, OR PHY 243*	MTH 266	MTH 266		EGR 255		EGR 206	MTH 266
		Total Elective Credits =			19	19	18	19	18	19	19
Extra Courses that NOVA offers that will transfer in the dicipline but are beyond the degree requirements.				MTH 266		EGR 245	BIO 206**	MTH 245	MTH 266	BIO 101	EGR 245
				MTH 288		EGR 248		EGR 240	CSC 205	BIO 102**	
				EGR 246				EGR 246	CSC 202	MTH 266	
				EGR 248				MTH 266			
								CHM 241/245			
Advising Notes:				* Students could also choose one of MTH 266 or MTH 288 and choose one of EGR 246 or EGR 248 instead of the science classes listed above.	Note: EGR 122 is a pre-requiste for first semseter coures at VT.		Encourage students to join ADVANCE to fill the remaining course slots with GMU courses if student wants to earn the AS degree. **This course will transfer but is not on the Engienering Technical Electives list due to hidden pre-reqs. If a studdent takes this course, please request a course substitution to complete an "Engineering/Technical Elective" requirement.		Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 1624	**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.	

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 2020-21				
Semester 1				UDC - BioMedical
SDV	100	College Success Skills	1	
ENG	111	College Composition I	3	
ENG	112	College Composition II	3	
CST		Communication Elective	3	
		Social Science Elective	3	
		Social Science Elective	3	
		Humanities/Fine Arts Elective	3	
		Humanities/Fine Arts Elective	3	
MTH	263	Calculus with Analytic Geometry I	4	
MTH	264	Calculus with Analytic Geometry II	4	
MTH	265	Vector Calculus	4	
MTH	267	Differential Equations	3	
PHY	231	General University Physics I	5	
PHY	232	General University Physics II	5	
EGR	121	Foundations of Engineering	2	
		Engineering/Technical Electives	Min 18 credits	CHM 111
				EGR 240
				EGR 122
				EGR 246
				MTH 266
				BIO 101
		Total Elective Credits =		
Extra Courses that NOVA offers that will transfer in the dicipline but are beyond the degree requirements.				EGR 245
				EGR 126
Advising Notes:				

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 2020-21				Chemical			Civil					Computer					
Semester 1				VT	VCU	UVA	GMU	VT	ODU	UVA	UDC	GMU	VT	ODU	VCU	UVA	UDC
SDV	100	College Success Skills	1														
ENG	111	College Composition I	3														
ENG	112	College Composition II	3														
CST		Communication Elective	3				CST 100		CST100, 110			CST 100					
		Social Science Elective	3				ECO 202	ECO 202				ECO 202			PHI 220		
		Social Science Elective	3														
		Humanities/Fine Arts Elective	3														
		Humanities/Fine Arts Elective	3														
MTH	263	Calculus with Analytic Geometry I	4														
MTH	264	Calculus with Analytic Geometry II	4														
MTH	265	Vector Calculus	4														
MTH	267	Differential Equations	3														
PHY	231	General University Physics I	5														
PHY	232	General University Physics II	5														
EGR	121	Foundations of Engineering	2			*Note 1*				*Note 1*						*Note 1*	
		Engineering/Technical Electives	Min 18 credits	CHM 111	CHM 111	CHM 111	CHM111	CHM 111	CHM111	CHM 111	CHM 111	CSC 201	CHM 111	CHM111	CHM 111	CHM 111	CHM 111
				CHM 112	CHM 112	EGR 122	EGR 125	EGR 206	EGR126	EGR 122	EGR 240	MTH 266	EGR 125	EGR126	EGR 126	EGR 122	EGR 251
				EGR 122	EGR 126	EGR 126 or CSC 201	EGR240	EGR 240	EGR240	EGR 126	EGR 126	EGR 251	EGR251		EGR 251	CSC 201	CSC 201
				CHM 241	CHM 241	CHM 112	CIV240	MTH 266	EGR 245	EGR 240	BIO 101/CHM 112	EGR 252	EGR 252	CHM112	EGR 252	MTH 288	MTH 288
				CHM 245	CHM 245	CHM 241	EGR246	EGR 246	EGR 246	BIO 101	EGR 245	EGR 255	EGR255		EGR 255	CSC 202	EGR 255
				MTH 266	MTH 266	CHM 245	CIV 280	EGR 122	CHM 112	MTH 266	EGR 246	CSC 202	EGR 122		MTH 266		CSC 202
													MTH 266		EGR 206		
		Total Elective Credits =		**19**	**19**	**19**	**19**	**18**	**20**	**20**	**20**	**18**	**21**	**11***	**19**	**18**	**19**
Extra Courses that NOVA offers that will transfer in the dicipline but are beyond the degree requirements.				CHM 242	CHM 242	CHM 242	BIO 102**	EGR 245		EGR 246		MTH 288	EGR 270*		CST 227	EGR 265	EGR 240
				CHM 246	CHM 246										MTH 288	EGR 251	
																EGR 255	
																CHM 112/BIO 101	
Advising Notes:						Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 1624.	**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 1624.		Note 1: Should encourage students to join ADVANCE to take GMU's ECE 101 course. This should be taken before EGR 251.	Note: Need EGR 270 but only offered SSDL.		Students needs to be sure to take EGR 251/252/255 as a group to get credit for Circuits 1 & II.	Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 1624	

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 2020-21				Computer Science			Construction Eng & Mang.	Cyber	Electrical					Materials
Semester 1				VT	UVA	UDC	VT	GMU	GMU	VT	VCU	UVA	UDC	VT
SDV	100	College Success Skills	1											
ENG	111	College Composition I	3											
ENG	112	College Composition II	3											
CST		Communication Elective	3	CST 100				CST 100	CST 100					
		Social Science Elective	3				ECO 201	ECO 202	ECO 202		PHI 220			ECO 202
		Social Science Elective	3				ECO 202							
		Humanities/Fine Arts Elective	3											
		Humanities/Fine Arts Elective	3											
MTH	263	Calculus with Analytic Geometry I	4											
MTH	264	Calculus with Analytic Geometry II	4											
MTH	265	Vector Calculus	4											
MTH	267	Differential Equations	3											
PHY	231	General University Physics I	5											
PHY	232	General University Physics II	5											
EGR	121	Foundations of Engineering	2		*Note 1*							*Note 1*		
		Engineering/Technical Electives	Min 18 credits	CHM 111	CHM 111	CSC 130*	CHM 111	CSC 201	CSC 201	CHM 111	CHM 111	CHM 111	CHM 111	CHEM 111
				CSC 201	EGR 122	CSC 201	EGR 240	MTH 266	EGR251	EGR126	EGR 126	EGR 122	EGR 251	EGR 240
				EGR 122	CSC 201	MTH 288	EGR 122	EGR 265	EGR 252	EGR251	EGR 251	CSC 201	CSC 201	EGR 122
				CSC 202	MTH 288	CSC 202	MTH 266		EGR 255	EGR 252	EGR 252	EGR 265	EGR 240	CHM 112
				MTH 288	CSC 202	MTH 266	EGR 246		MTH 266	EGR255	EGR 255	CSC 202	EGR 255	MTH 266
						CSC 206*	**			EGR 122	MTH 266	CHM 112 or BIO 101	PHY 243	EGR 246
										MTH 266	EGR 206			
		Total Elective Credits =		**18**	**18**		**19****	**11***	**14***	**20**	**19**	**23**	**20**	**20**
Extra Courses that NOVA offers that will transfer in the dicipline but are beyond the degree requirements.				MTH 266	CHM 112/BIO 101						CST 227	EGR 251		
					CSC 205							EGR 255		
Advising Notes:					Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 1624.	*Not on the list of approved electives. Students will need to get a substitution	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.	Encourage students to join ADVANCE to fill the remaining course slots with GMU courses if student wants to earn the AS degree. Please speak to a faculty advisor for course and transferability options.	Note: EGR 122 & EGR 126 are pre-requistes for first semseter coures at VT.	Students needs to be sure to take EGR 251/252/255 as a group to get credit for Circuits 1 & II.	Note 1: For students attending UVA will also need to take EGR 122 to earn credit for ENGR 1624.		

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 2020-21				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										
ENG	112	College Composition II	3										
CST		Communication Elective	3	CST 100							CST 100/110		
		Social Science Elective	3	ECO 202							ECO 202		
		Social Science Elective	3	HIS 102							HIS 101, 102, 112		
		Humanities/Fine Arts Elective	3								ENG 236, 241, 242, 251, 252, 253		
		Humanities/Fine Arts Elective	3										
MTH	263	Calculus with Analytic Geometry I	4										
MTH	264	Calculus with Analytic Geometry II	4										
MTH	265	Vector Calculus	4										
MTH	267	Differential Equations	3										
PHY	231	General University Physics I	5										
PHY	232	General University Physics II	5										
EGR	121	Foundations of Engineering	2	EGR 122*				*Note 1*				*Note 1*	
		Engineering/Technical Electives	Min 18 credits	CHM 111	CHEM 111	CHM111	CHM111	CHM111	CHM 111	CHEM 111	CHM 111	CHM 111	CHM 111
				CSC 201	EGR 122	EGR 126	EGR 122	EGR 122	EGR 240	EGR 240	EGR 240	EGR 122	EGR 126
				EGR 240	EGR 240	EGR240	EGR 240	EGR 126 or CSC 201	EGR 251	EGR 122	MTH 266	CSC 201	EGR 122
				EGR 245	EGR 245	EGR 245	EGR 245	EGR 240	EGR 245	EGR 246	EGR 125	CSC 202	MTH266
				EGR 246	EGR 246	EGR 246	EGR 246	EGR 246	EGR 255	EGR 245	EGR 245	CHM 112 or BIO 101	EGR 206
				MTH 266	MTH 266	CHM 112	EGR 248	MTH 266	EGR 122	MTH 266	EGR 246		EGR 240
									EGR 246				
		Total Elective Credits =		**20**	**19**		**19**	**19**	**20**	**19**	**20**	**19**	**18**
Extra Courses that NOVA offers that will transfer in the dicipline but are beyond the degree requirements.				EGR 248	CHM 241/245	EGR 115	EGR 251	EGR 248		GOL 105		MTH 288	EGR 246
							EGR 255	EGR 245				MTH 266	
							MTH 266						
							EGR 206						
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 1624.			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 1624.	

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