7: Academic Programs

7.1 Overview

Valley Forge Military College is accredited by the Middle States Commission on Higher Education and is approved by the Pennsylvania Commission on Higher Education of the Pennsylvania Department of Education.

A: The Commonwealth of Pennsylvania has granted to VFMC the authority to offer and award the following associate degrees:

i. Associate of Arts
ii. Associate of Science
iii. Associate of Business Administration (Not currently offered)

B: Programs currently included in the **Associate of Arts** degree include:

Behavioral & Social Science
Criminal Justice
History
Liberal Arts
Political Science
National Security

C: Programs currently included in the **Associate of Science** degree include:

Business Administration
Computer Science
Construction Management
Cybersecurity
Engineering and Physical Sciences
Health Science
Mathematics

D: One-year undergraduate **Certificate** programs include:

Cybersecurity
Digital Forensics

7.2 Core Competencies

VFMC Curriculum is currently divided into two distinct categories: 1) Core Competency Requirements and 2) Program Specific Requirements.

To earn either an Associate of Arts Degree, or an Associate of Science Degree, all students must complete a minimum of sixty (60) credits total, with 12 credits per semester, with a cumulative grade point average (GPA) of a 2.0 or higher, and complete all core and program requirements. The core competencies are:

Character and Ethics

Definition: VFMC cadets will identify, explain, and evaluate the ethical perspectives of others and themselves.

Critical Thinking

Definition: VFMC cadets will synthesize information, define their own perspectives and positions, and evaluate the implications and consequences of their conclusions and actions.

Emotional Intelligence

Definition: VFMC cadets will understand the emotions of themselves and others, and how individual actions and social needs impact the reality of others.

Information Literacy and Security

Definition: VFMC cadets will learn how to locate, interpret, determine the credibility of, and use information effectively, ethically, and legally; and cadets will learn how to protect information systems from unauthorized and illegal access and use.

Leadership

Definition: VFMC cadets will learn the roles of leadership, critically reflect on situations to improve practice, and formulate innovative solutions to problems with which they are faced.

Military History

Definition: VFMC cadets will develop an understanding of the military decision process and the factors behind American military development.

Oral Communication

Definition: VFMC cadets will speak clearly and effectively for a variety of audiences and purposes.

Physical Development

Definition: VFMC cadets will understand and correctly apply physiological principles related to exercise and training

Quantitative Reasoning

Definition: VFMC cadets will use quantitative reasoning to analyze problems and identify solutions.

Scientific Method

Definition: VFMC cadets will use the scientific method to propose a hypothesis, produce experiments to test those statements, and effectively analyze the test data to form a conclusion.

Social Science

Definition: VFMC cadets will develop a broad knowledge base about modern issues that can be applied to the public good.

Written Communication

Definition: VFMC cadets will write clearly and effectively for a variety of audiences and purposes.

*Native speakers may not enroll in courses in the target language for credit.

*Any student taking ESL courses or for whom English is a second language, will not need to take an additional language requirement.

*A single course cannot satisfy multiple degree or program elective options (i.e. PY101 cannot be used as a Degree Requirement, Humanities Elective, and Free Elective). Check with your advisor to ensure courses are selected properly.

7.3 Academic Program Maps and Course Sequencing

The Valley Forge Military College Advising & Administration, in the interest of timely student Graduation and program completion, apply a four-semester sequence of courses upon each student's course selections. Sequencing, if followed, facilitates the guaranteed earning of an Associate Degree regardless of program and regardless of whether or not a student wishes to pursue a Cybersecurity Certificate in conjunction with their Associate Degree program.

The tables that follow outline the degree requirements and elective options for each degree and the four-semester sequence recommended for each degree when study is started in either the Fall or Spring semester. At the end of all degree outlines is a master list of courses typically offered in the Fall and Spring semester.

Students can use the program maps and course sequences to track their progress with the help of their advisor.

The program plans and sample course sequences are presented as follows:

7.3.1: Associate of Arts in Behavioral and Social Science

Behavioral and Social Sciences

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	SO101: Introduction to Sociology	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	EC110: Microeconomics or EC111: Macroeconomics	3
Program Core	PS101: American Government	3
Program Core	SO201: Multiculturalism	3
Program Core	CJ220: Criminology	3
Program Core	Language 1	3
Program Elective	Elective (recommend Upper Level Course at Eastern University)	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.2: Associate of Arts in Criminal Justice

Criminal Justice

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA101: College Algebra or MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology or SO101: Introduction to Sociology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	CJ101: Introduction to Criminal Justice	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	CJ104: Intro to Constitutional Law	3
Program Core	CJ204: Criminal Law and Procedure	3
Program Core	CJ205: Criminal Investigations	3
Program Core	CJ220: Criminology	3
Program Core	PS101: American Government	3
Program Capstone	CJ225: Incident Command	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.3: Associate of Arts in History

History

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA101: College Algebra or MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology or SO101: Introduction to Sociology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	Elective	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	HI103: American Experience I	3
Program Core	HI104: American Experience II	3
Program Core	HI105: World Civilization I	3
Program Core	HI106: World Civilization II	3
Program Core	Language Elective 1	3
Program Core	Language Elective 2	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.4: Associate of Arts in Liberal Arts

Liberal Arts

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA101: College Algebra or MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	CJ101: Introduction to Criminal Justice	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	SO101: Introduction to Sociology	3
Program Core	HI103: American Experience I or HI104: American Experience II or HI105: World Civilization I or HI106: World Civilization II	3
Program Core	PS101: American Government or CJ104: Introduction to Constitutional Law	3
Program Core	Literature Elective	3
Program Core	Language Elective 1	3
Program Core	Language Elective 2	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.5: Associate of Arts in Political Science

Political Science

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA101: College Algebra or MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	PS104: Introduction to Political Science	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	PS101: American Government	3
Program Core	CJ104: Introduction to Constitutional Law	3
Program Core	PS102: International Relations	3
Program Core	PS202: Comparative Government	3
Program Core	Language Elective 1	3
Program Core	Language Elective 2	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.6: Associate of Arts in National Security

National Security

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA101: College Algebra or MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	SE101: Introduction to National Security	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	CJ104: Introduction to Constitutional Law	3
Program Core	SE110: Global Conflict	3
Program Core	SE210: Terrorism & Counter-terrorism	3
Program Core	SE215: Intelligence Studies	3
Program Elective	PS101: American Government	3
Program Capstone	CJ225: Incident Command (CJ106: Digital Forensics or EM101: Intro to Emergency Management)	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.7: Associate of Science in Business Administration

Business Administration

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA104: Calculus (4) or MA112: Statistics	3
Scientific Method	Science Elective	4
Character and Ethics	BU204: Business Law and Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	CJ104: Introduction to Constitutional Law or PS101: American Government	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	EC110: Principles of Microeconomics	3
Program Core	EC111: Principles of Macroeconomics	3
Program Core	BU110: Principles of Management	3
Program Core	AC201: Financial Accounting	4
Program Core	AC202: Managerial Accounting	3
Program Elective	Elective or Second Math	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		63

7.3.8: Associate of Science in Computer Science

Computer Science

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA104: Calculus	4
Scientific Method	PH101: Physics I	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	Elective	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	MA201: Calculus II	4
Program Core	PH201: Physics II	4
Program Core	CS120: Introduction to Programming I	3
Program Core	CS200: Introduction to Programming II	3
Program Core	CS230: Data Structures	3
Program Elective	Elective	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		65

7.3.9: Associate of Science in Construction Management

Construction Management

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA104: Calculus (4) or MA112: Statistics	3
Scientific Method	PH201: Physics I or PH102: General Physics	4
Character and Ethics	BU204: Business Law and Ethics	3
Emotional Intelligence	BU110: Principles of Management	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	CN102: Construction Safety	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	ER102: Introduction of Engineering and Materials	3
Program Core	ER105: Engineering Graphics	3
Program Core	CN101: Introduction to Construction Codes	3
Program Core	CN103: Introduction to Methods and Materials	3
Program Core	CN104: Advanced Construction Skills	3
Program Elective	AC201: Financial Accounting (4) / EC101: Principles of Microeconomics	3
Program Capstone	CN203: Construction Practicum	3
Elective	ECP: MS302: Applied Team Leadership CL: Principles of Microeconomics	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: AC201 or EC101	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		65

7.3.10: Associate of Science in Cybersecurity

Cybersecurity

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA101: College Algebra	3
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	Elective	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	CS120: Introduction to Programming	3
Program Core	CS200: Introduction to Programming II	3
Program Core	CS220: Data Management and Security	3
Program Core	CS240: Network Communication and Security	3
Program Core	CS290: Information Systems Security	3
Program Core	CJ106: Digital Forensics	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.11: Associate of Science in Engineering and Physical Sciences

Engineering and Physical Sciences

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA104: Calculus	4
Scientific Method	CH103: Chemistry I + Lab	4
Character and Ethics	ER102: Introduction to Engineering and Materials	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	ER105: Engineering Graphics	3
Social Science	MA210: Differential Equations	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	PH201: Physics I	4
Program Core	PH202: Physics II	4
Program Core	MA201: Calculus II	4
Program Core	MA202: Calculus III	4
Program Core	ER201: Engineering Statics	3
Program Core	ER280: Dynamics	3
	ER290: Mechanics of Solids	3
	CH104: Principles of Chemistry II + Lab	4
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		74

7.3.12: Associate of Science in Health Science

Health Science

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA104: Calculus	4
Scientific Method	CH103: Principles of Chemistry I + Lab	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	Elective	3
Leadership	CC101: Corps of Cadets	1
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	CH104: Principles of Chemistry II + Lab	4
Program Core	MA201: Calculus II	4
Program Core	BI101: Biology I + Lab	4
Program Core	BI102: Biology II + Lab	4
Program Elective	Science Elective	3
Program Elective	Science Elective	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		67

7.3.13: Associate of Science in Mathematics

Mathematics

General Education Competencies		Credits
Written Communication	EN101: English I	3
	EN102: English II	3
Oral Communication	CM120: Public Speaking	3
Quantitative Reasoning	MA104: Calculus	4
Scientific Method	Science Elective	4
Character and Ethics	PL101: Introduction to Ethics	3
Emotional Intelligence	PY101: Introduction to Psychology	3
Critical Thinking	ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101, MS102, MS201, MS202 lab included	4 (1)
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Social Science	Elective	3
Leadership	CC101: Corps of Cadets	1`
Military History	HI203: American Military History	3
Physical Development	Participation in Physical Training	-
Program Courses		
Program Core	MA200: Linear Algebra	3
Program Core	MA201: Calculus II	4
Program Core	MA202: Calculus III	4
Program Core	MA205: Discrete Math	3
Program Core	MA210: Differential Equations	3
Elective	ECP: MS302: Applied Team Leadership CL: Free Elective	3
Elective	ECP: MS401: Developing Adaptive Leaders CL: Free Elective	3
Elective	ECP: MS402: Leadership in a Complex World CL: Free Elective	3
Total Credits		62

7.3.14: Certificate in Cybersecurity

Valley Forge Military College is designated as a center of academic excellence for cyber defense, two-year schools (CAE2Y).

Certificate in Cybersecurity

General Education Competencies		Credits
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Program Core	CS220: Data Management and Security (Prerequisite - CS110)	3
Program Core	CS240: Network Communication and Security (Prerequisite - CS110)	3
Program Core	CS290: Information Systems Security (Prerequisite - CS110, CS220, CS240)	3

Program Parameters

1: This program (these courses) can be taken as part of any other degree program offered at VFMC.

2: CS220 and CS240 may be interchanged in the sequence as availability allows, but both must

7.3.15: Certificate in Digital Forensics

Certificate in Digital Forensics

General Education Competencies		Credits
Social Science	CJ104: Introduction to Constitutional Law (Prerequisite - CS110)	3
Program Core	CJ106: Digital Forensics	3
Information Literacy and Security	CS110: Introduction to Computer Information Systems	3
Program Core	CS120: Introduction to Programming	3
	Total Credits:	**12**

Program Parameters

1: This program (these courses) can be taken as part of any other degree program offered at VFMC.

2: Courses may be interchanged in the sequence as availability allows.

7.4: Course Sequences by Semester

This list is presented as a guide to which courses are typically offered in a given semester. The actual list of courses **may vary** and is issued by the Registrar prior to registration for the upcoming semester. Refer to that list of offerings for advising and class selection purposes.

7.4.1: Associate of Arts in Behavioral and Social Science

Behavioral and Social Science

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
MA112: Statistics	3	CM120: Public Speaking	3
PY101: Introduction to Psychology	3	SO101: Introduction to Sociology	3
EC110: Microeconomics	3	Elective	3
PS101: American Government	3		
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	19		16
Fall Semester #2		Spring Semester #2	
Lab Science	4	HI203: American Military History	3
Language 1	3	SO201: Multiculturalism	3
CS110: Introduction to Computer Information Systems	3	CJ220: Criminology	3
PL101: Introduction to Ethics	3	Elective	3
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	17		16
Total Credits		Must have a minimum of 60 credits to graduate	72

7.4.2: Associate of Arts in Criminal Justice

Criminal Justice

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
MA101: College Algebra or MA11: Statistics	3	CM120: Public Speaking	3
PS101: American Government	3	SO101: Introduction to Sociology	3
CJ101: Introduction to Criminal Justice	3	CS110: Introduction to Computer Information Systems	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	HI203: American Military History	4 (1)
		ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	
(must have minimum of **12** credits per semester)	16		16
Fall Semester #2		Spring Semester #2	
Lab Science	4	CJ204: Criminal Law and Procedure	3
PL101: Introduction to Ethics	3	CJ205: Criminal Investigations	3
PY101: Introduction to Psychology	3	CJ220: Criminology	3
HI203: American Military History	3	CJ225: Incident Command	3
CJ104: Intro to Constitutional Law	3		
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	20		16
Total Credits		Must have a minimum of 60 credits to graduate	78

7.4.3: Associate of Arts in History

History

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
MA101: College Algebra	3	CM120: Public Speaking	3
or MA112: Statistics	(3)	SO101: Introduction to Sociology	3
CS110: Introduction to Computer Information Systems	3	HI203: American Military History	3
HI103: American Experience I	3	HI104: American Experience II	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
CC101: Intro to the Corps of Cadets	1		
(must have minimum of **12** credits per semester)	17		19
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	PL101: Introduction to Ethics	3
BI101 + Lab: Biology I	4	HI106: World Civilization II	3
PY101: Introduction to Psychology	3	Language II	3
HI105: World Civilization I	3	PY101: Introduction to Psychology	3
Language 1	3	AC202: Managerial Accounting	3
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	21		19
Total Credits		Must have a minimum of 60 credits to graduate	78

7.4.4: Associate of Arts in Liberal Arts

Liberal Arts

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
PL101: Introduction to Ethics	3	CM120: Public Speaking	3
PY101: Introduction to Psychology	3	MA101: College Algebra	3
CJ101: Introduction to Criminal Justice	3	MA112: Statistics	3
PS101: American Government	3	SO101: Introduction to Sociology	3
CJ104: Introduction to Constitutional Law		HI104: American Experience II	
HI103: American Experience I			
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	19		19
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	CS110: Introduction to Computer Information Systems	3
BI101 + Lab: Biology I	4	HI106: World Civilization II	3
PL101: Introduction to Ethics	3	HI203: American Military History	3
PY101: Introduction to Psychology	3	Language II	3
CJ101: Introduction to Criminal Justice	3		
HI105: World Civilization I	3		
Language 1	3		
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	27		16
Total Credits		Must have a minimum of 60 credits to graduate	81

7.4.5: Associate of Arts in Political Science

Political Science

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
PY101: Introduction to Psychology	3	CM120: Public Speaking	3
PS104: Introduction to Political Science	3	MA101: College Algebra	3
PS101: American Government	3	MA112: Statistics	3
		CS110: Introduction to Computer Information Systems	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	16		19
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	HI203: American Military History	3
BI101 + Lab: Biology I	4	HI106: World Civilization II	3
PL101: Introduction to Ethics	3		
Language 1	3	Language II	3
	3	PS102: International Relations	
	3	PS202: Comparative Government	3
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	24		16
Total Credits		Must have a minimum of 60 credits to graduate	75

7.4.6: Associate of Arts in National Security

National Security

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
MA101: College Algebra	3	CM120: Public Speaking	3
MA112: Statistics	3	CS110: Introduction to Computer Information Systems	3
SE101: Introduction to National Security	3	SE110: Global Conflict	3
CJ104: Introduction to Constitutional Law	3		
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	19		16
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	HI203: American Military History	3
BI101 + Lab: Biology I	4	SE210: Terrorism & Counter-terrorism	3
PL101: Introduction to Ethics	3	SE215: Intelligence Studies	3
PY101: Introduction to Psychology	3	CJ225: Incident Command	3
PS101: American Government	3		
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	21		16
Total Credits		Must have a minimum of 60 credits to graduate	72

7.4.7: Associate of Science in Business Administration

Business Administration

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
PY101: Introduction to Psychology	3	CM120: Public Speaking	3
PS101: American Government	3	MA104: Calculus	4
CJ104: Introduction to Constitutional Law	3	MA112: Statistics	3
EC110: Principles of Microeconomics	3	EC111: Principles of Macroeconomics	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	19		20
Fall Semester #2		Spring Semester #2	
CH103: Chemistry I + Lab	4	BU204: Business Law and Ethics	3
BI101: Biology I + Lab	4	HI203: American Military History	4
CS110: Introduction to Computer Information Systems	3		
BU110: Principles of Management	3	Elective or Math	3
AC201: Financial Accounting	4	AC202: Managerial Accounting	3
ECP: MS401 + Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402 + Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	22		17
Total Credits		Must have a minimum of 60 credits to graduate	78

7.4.8: Associate of Science in Computer Science

Computer Science

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
PL101: Introduction to Ethics	3	CM120: Public Speaking	3
PY101: Introduction to Psychology	3	MA104: Calculus	4
CS110: Introduction to Computer Information Systems	3	Elective	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	16		17
Fall Semester #2		Spring Semester #2	
PH101: Physics I	4	PH201: Physics II	4
HI203: American Military History	3	CS200: Introduction to Programming II	3
MA201: Calculus II	4	CS230: Data Structures	3
CS120: Introduction to Programming I	3	Elective	3
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	18		17
Total Credits		Must have a minimum of 60 credits to graduate	68

7.4.9: Associate of Science in Construction Management

Construction Management

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
BU110: Principles of Management	3	CM120: Public Speaking	3
CS110: Introduction to Computer Information Systems	3	MA104: Calculus	4
CN102: Construction Safety	3	MA112: Statistics	3
ER102: Introduction of Engineering and Materials	3	ER105: Engineering Graphics	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	19		18
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	BU204: Business Law and Ethics	3
BI101 + Lab: Biology I	4	HI203: American Military History	3
PH101: Physics I	4	CN104: Advanced Construction Skills	3
CN101: Introduction to Construction Codes	3	CN203: Construction Practicum	3
CN103: Introduction to Methods and Materials	3		
AC201: Financial Accounting	3		
EC101: Principles of Microeconomics	3		
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	28		16
Total Credits		Must have a minimum of 60 credits to graduate	81

7.4.10: Associate of Science in Cybersecurity

Cybersecurity

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
PL101: Introduction to Ethics	3	CM120: Public Speaking	3
PY101: Introduction to Psychology	3	MA101: College Algebra	3
CS110: Introduction to Computer Information Systems	3	CS220: Data Management and Security	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	16		16
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	SS Elective	3
BI101 + Lab: Biology I	4	CS200: Introduction to Programming II	3
HI203: American Military History	3	CS290: Information Systems Security	3
CS120: Introduction to Programming	3	CJ106: Digital Forensics	3
CS240: Network Communication and Security	3		
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	21		16
Total Credits		Must have a minimum of 60 credits to graduate	69

7.4.11: Associate of Science in Engineering and Physical Sciences

Engineering and Physical Sciences

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
ER102: Introduction of Engineering and Materials	3	CM120: Public Speaking	3
CH103 + Lab: Chemistry I	4	MA104: Calculus	4
PY101: Introduction to Psychology	3	ER105: Engineering Graphics	3
MA112: Statistics	3	CH104: Principles of Chemistry II + Lab	4
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	20		21
Fall Semester #2		Spring Semester #2	
MA201: Calculus II	4	MA210: Differential Equations	3
PH201: Physics I	4	PH202: Physics II	4
ER201: Engineering Statics	3	ER290: Mechanics of Solids	3
HI203: American Military History	3	ER280: Dynamics	3
		MA202: Calculus III	4
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	18		21
Total Credits		Must have a minimum of 60 credits to graduate	80

7.4.12: Associate of Science in Health Science

Health Science

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
CH103: Principles of Chemistry I + Lab	4	CH104: Principles of Chemistry II + Lab	4
BI101: Biology I + Lab	4	BI102: Biology II + Lab	4
PL101: Introduction to Ethics	3	MA104: Calculus	4
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	18		19
Fall Semester #2		Spring Semester #2	
MA201: Calculus II	4	Science Elective	4
Science Elective	4	CS110: Introduction to Computer Information Systems	3
HI203: American Military History	3	SS Elective	3
PY101: Introduction to Psychology	3	CM120: Public Speaking	3
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	18		17
Total Credits		Must have a minimum of 60 credits to graduate	72

7.4.13: Associate of Science in Mathematics

Mathematics

Fall Semester #1	Credits	Spring Semester #1	Credits
EN101: English I	3	EN102: English II	3
PL101: Introduction to Ethics	3	CM120: Public Speaking	3
PY101: Introduction to Psychology	3	MA201: Calculus II	4
MA104: Calculus	4	CS110: Introduction to Computer Information Systems	3
ECP: MS301 + Lab: Adaptive Team Leadership CL: MS101 lab included	4 (1)	ECP: MS302 + Lab: Applied Team Leadership CL: MS102 lab included	4 (1)
(must have minimum of **12** credits per semester)	19		18
Fall Semester #2		Spring Semester #2	
CH103 + Lab: Chemistry I	4	BU204: Business Law and Ethics	3
BI101 + Lab: Biology I	4	HI203: American Military History	3
PH101: Physics I	4	CN104: Advanced Construction Skills	3
CN101: Introduction to Construction Codes	3	CN203: Construction Practicum	3
CN103: Introduction to Methods and Materials	3		
AC201: Financial Accounting	3		
EC101: Principles of Microeconomics	3		
ECP: MS401+Lab: Developing Adaptive Leaders CL: MS201 lab included	4 (1)	ECP: MS402+Lab: Leadership in a Complex World CL: MS202 lab included	4 (1)
	28		16
Total Credits		Must have a minimum of 60 credits to graduate	81

11: Course Descriptions

Accounting – AC

AC 201 - Financial Accounting

This course is an introduction to the basic concepts and standards underlying financial accounting systems. Several important concepts will be studied in detail, including: revenue recognition, inventory, long-lived assets, and long term liabilities. The course emphasizes the construction of the basic financial accounting statements – the income statement, balance sheet, and cash flow statement – as well as their interpretation.

- *Credits: Four semester-hours (Four hours per week)*
- *Pre-requisites: None*

AC 202 - Managerial Accounting

The course presents alternative methods of preparing managerial accounting information, and examines how these methods are used by companies. Managerial accounting is a company's internal language, and is used for decision-making, production management, product design and pricing and for motivating and evaluating employees. Managerial accounting will help the student have a thorough understanding of a company's internal operations. What the student learns in this course will help them understand the operations of companies encountered in the role of employee, competitor, consultant, or investor.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: AC 201*

Arabic -- AR

AR101 & 102 - Introduction to Arabic I and Introduction to Arabic II

This two-semester introductory sequence provides instruction and practice in the four skill areas of listening, speaking, reading, and writing. These courses focus on the development of communicative skills in oral and written expression. In-class practice and independent oral and written exercises support these objectives. Cultural readings foster an awareness and appreciation of the values, practices, and perspectives of the Arabic-speaking world.

- *Co-requisite for AR101: EN 101*
- *Prerequisite for AR102: AR 101 or satisfactory performance on placement exam.*
- *Credits: Three semester-hours (Three hours per week)*

Biology – BI

BI 101 - Principles of Biology I

This course is the first in a two-semester sequence and is specifically designed for students who are pursuing programs in the Life and Health Sciences. Topics in this course include scientific methods, chemical basis of life, photosynthesis, cell structure and function, cell division, cell communication and evolution. Laboratory component includes techniques such as microscopy, measurements, dissection, physiological experimentation, and use of the scientific method.

- *Prerequisite: EN101*
- *Credits: Four semester-hours (lecture + laboratory)*

BI 102 - Principles of Biology II

This course is a continuation of the introductory level course in biology (BI 101) in a two semester sequence that provides the students with strong foundations to relate biological concepts and interactions with diversity of life, evolution and natural selections; DNA replication, RNA transcription and protein biosynthesis; RNA splicing; the diversity and evolution of life through studies of bacteria and archea, protists, fungi and plants; plant structure, growth and development. Other topics include the study of animal form and function with emphasis on animal nutrition, digestion and absorption; circulatory and respiratory system; ecosystem and the biosphere, population ecology and community ecology.

- *Prerequisite: BI101*
- *Credits: Four semester-hours (Three hours per week, one three hour lab per week)*

BI 215– Human Anatomy and Physiology I

This course examines the human body with emphasis on structure and function of integumentary, skeletal, muscular, and nervous systems. Investigates each systems at chemical and cellular levels. Laboratory sessions are coordinated with lectures with emphasis on structure, function, interrelationship through use of models, dissections, animations, and histological slides.

- *Prerequisite: BI101 & CH107/CH103*
- *Credits: 4 semester-hours credit (lecture + laboratory)*

BI 216 - Human Anatomy & Physiology II

This course is a continuation of BI 215, examines the structure and function of endocrine, cardiovascular, respiratory, immune and urinary systems. Emphasis on interrelationships and the maintenance of homeostasis. Laboratory sessions are coordinated with lectures with emphasis on structure, function, interrelationship through use of models, dissections, animations, and histological slides.

- *Pre- requisite: BI215*
- *Credits: 4 semester-hours credit (lecture + laboratory)*

BI 235 - Microbiology

This course examines morphology, classification, function, and metabolisms of microorganisms including bacteria, viruses, fungi and parasites. It also emphasizes microorganisms responsible for human disease, mode of transmission, identification, treatment and prevention.
Laboratory component includes learning aseptic techniques, control of microbial growth using physical and chemical methods, classification of microorganisms using histological, staining, serological and immunological methods.

- *Prerequisite: BI215 & CH107*
- *Credits: 4 semester-hours credit (lecture + laboratory)*

Business – BU

BU 110 - Principles of Management

This course uses the knowledge gained in introductory courses to identify and propose solutions to real-world problems business leaders face. Students are exposed to many of the tasks a manager faces in a typical business situation by focusing on the principles of management functions of planning, organizing, leading or directing, and controlling. Class activity involves data collection and analysis, report writing and business presentation skills that will help the student develop the leadership skills necessary to be a good manager.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite*: *EN 102 or LT 103*

BU 150 - Introduction to Global Business

The globalization of business is bringing both new prosperity and new challenges to business leaders across the globe. In recognition of the changing face of business, VFMC offers an introductory course in international issues of culture, language, law, ethics and business practices. As a class project, students will produce a nation study, and draw conclusions as to investment in a foreign country.

Credits: Three semester-hours credit (Three hours per week)

BU 202 - Business Communications

This course is designed to develop students' skills in professional communication, both written and oral. These skills will help students communicate effectively in the business environment. Topics include writing memoranda, letters, business proposals, resumes, workplace correspondence, and oral presentations. Students will be able to use these skills to analyze various communication situations and create and present information to meet the needs of different readers.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: EN 102*

BU 204 - Business Law and Ethics

This course provides an overview of the legal and ethical issues that confront business executives in both starting and operating an existing business. It provides an analytical framework to identify legal and ethical issues and discusses topics in contracts, sales, torts, crimes, securities law and Sarbanes-Oxley, business organizations, employment and discrimination and E-commerce. Interweaves ethical issues into the topics covered.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: AC 201 & EN 102*

Chemistry -- CH

CH103 - Principles of Chemistry I

The first half of a two-semester sequence for science and pre-engineering students, this course is an introduction to chemistry which will provide a firm foundation in the concepts and principles of chemistry. Principles studied in this course include physical measurements, the study of the structure of the atom, the Periodic Table of elements, the behavior of gases, chemical bonding

theory, molecular structure, chemical reactions, stoichiometric calculations, thermochemistry and quantum theory of the atom. Laboratory classes serve as an introduction to laboratory procedures. The experiments are intended to support and verify the theoretical concepts presented in the lectures.

- *Co-requisite: MA 101*
- *Credits: Four semester-hours (Three hours per week, one three hour lab per week)*

CH 104 - Principles of Chemistry II

Topics covered in this second semester course include intermolecular solutions, colligative properties, rates of reactions, chemical equilibrium, acids and bases, solubility, complex ion equilibria, thermodynamics, electrochemistry, nuclear chemistry, and an introduction to organic chemistry. As in CH 103, laboratory exercises support and verify the theoretical concepts presented in lectures.

- *Prerequisite: CH 103*
- *Credits: Four semester-hours (Three hours per week, one three hour lab per week)*

CH 107 - General Chemistry

This course examines physical, chemical properties of chemistry. Topics included atomic structure, bonding, gases, solutions, acids and bases, oxidation – reduction reactions, classes of organic compounds from hydrocarbons to alcohols, amides, ketones. Emphasizes the importance of functional groups. Examples are relate allied health fields, nutrition and pharmacology as well as the environment.

Laboratory correlates with lecture with emphasis on scientific method, physical measurements, principles of chemical reactions and qualitative and quantitative techniques.

- *Prerequisite: MA 101*
- *Credits: Four semester-hours credit (lecture + laborator)*

Criminal Justice -- CJ

CJ101 - Introduction to Criminal Justice

This course is a survey of the philosophy and history of law enforcement. Students gain knowledge of the basic organization and jurisdiction of local, state, and federal law enforcement agencies. The course explores the duties, guidelines, and ethical principles followed by the law enforcement officer, including the legal basis on which his/her authority rests. An examination of the United States court system and the complete procedure from arrest to sentencing is covered.

- *Credits: Three semester-hours (Three hours per week)*

CJ104 – Introduction to Constitutional Law

The “Introduction to Constitutional Law” course focuses on the basics of the US Constitution and the Bill of Rights. The course is designed to be a first semester, first year pre-requisite for each of the three Justice and Securities Studies courses of instruction: Criminal Justice, Cyber Security, and Security Studies. Students will be exposed to the first three articles of the US Constitution; the roles, authorities, and responsibilities of the three branches of the federal government; the Bill of Rights (first ten Amendments); and the inter-relationships between the federal and state governments and the citizens of the nation.

- *Credits: Three semester-hours (Three hours per week)*

CJ106 – Digital Forensics

Provides an introduction to Digital Forensics from a theoretical and practical perspective and an introduction to investigative tools and techniques used in the field. Provides practical applications in legal and technical report writing in the area of Digital Forensics. Provides students with an introduction to the laws of search and seizure and the civil and criminal laws pertaining to computers and the seizure of computer evidence. Students will examine cases and statutes from appropriate sources including the United States Constitution and Federal and State laws pertaining to Internet and email records, ECPA, search warrants and probable cause. Students will also examine data mapping in civil discovery, the use of reports in evaluating an investigation, the importance of e-discovery rules and the process of conducting a search. Other topics include the importance of digital evidence controls, the method of processing crime and incident scenes, the details of data acquisition, and the requirements of an expert witness. The course provides a range of laboratory and hands-on activities and assignments that emphasize both the theory and the practical application of computer forensic investigations.

- *Prerequisite: CS110 and CJ104*
- *Credits: Three semester-hours (Three hours per week)*

CJ204 - Criminal Law and Procedure

Designed to provide an overview of the common law foundation for substantive and procedural criminal law in the United States and how it has affected the evolution and application of present-day law and procedures, this course reviews statutory, constitutional, common, executive and regulatory law, including computer crime and statutes. Course objectives include advancing the understanding of the relationship between law enforcement and the justice system; understanding the concepts related to legal, legislative, moral, ethical and social processes; and consideration of the balance required between the rights of the victim and the rights of the perpetrator.

- *Prerequisite: CJ 101*
- *Credits: Three semester-hours (Three hours per week)*

CJ205 - Criminal Investigation

This course familiarizes the student with scientific investigation, and the practices and capabilities of a crime laboratory. The ethical identification, locating, gathering, and preservation of physical evidence and the forensic processing techniques of evidence are examined, including DNA and computer crime, as well as the strengths and vulnerabilities of physical evidence at trial.

- *Prerequisite: CJ 101*.
- *Credits: Three semester-hours (Three hours per week)*

CJ200 – Special Topics

Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest

- *Prerequisite: EN 102*
- *Credits: One, two or three semester-hours (One to three hours per week), at the discretion of the instructor*

CJ220 - Criminology

Criminology is an interdisciplinary profession built around the scientific study of crime and criminal behavior, including their forms, causes, legal aspects and control. Criminology consists of six theoretical developments: Classical School, Biological Theories, Psychological and Psychiatric Theories, Social Structure Approaches, Social Process Theories and Social Conflict Theories. Specific attention is given to various forms of crime in our society, including white

collar crime, delinquency, organized crime, and violent crime. Study of crime and delinquency patterns, their causes and remedial measures, emphasizing social, economic, and psychological forces involved, including the role and treatment of enforcement.

- *Prerequisite: CJ 101 or SO 101*
- *Credits: Three semester-hours (Three hours per week)*

CJ225 –Incident Command

The Incident Command System (ICS) course focuses on the problems posed for the management of large scale incidents or natural disasters including particular problems associated with multi-agency responses involving multiple jurisdictions and agencies. These types of incidents impose significant demands on management, including the necessity for pre-planning, the development of communication and information and data-retrieval systems, and the attention leadership and decision making approaches appropriate for crisis situations.

- *Prerequisite: CJ 204, CJ 205 and CJ 220*
- *Credits: Three semester-hours (Three hours per week)*

Communications -- CM

CM120 - Public Speaking

This course is an introduction to several forms of public communication. Emphasis is placed on the development and practice of public speaking about significant political, cultural, and social issues. Students are taught an audience-sensitive approach to the development, arrangement, and delivery of public messages.

- *Credits: Three semester-hours (Three hours per week)*

Computer Science -- CS

CS110 - Introduction to Computer Information Systems

This course is an introduction to computer information systems concepts, hardware, software applications, network communications, and the security and privacy issues surrounding computers and information systems. The course is centered on the use and integration of computer technology and software applications to improve human task completion efficiency. Coverage includes an overview of current hardware and software technologies and issues, networks and communications, and information systems basics and trends. The objective of the course is to understand the process of digital information manipulation and to develop critical information management and computer technology skills required by an "information age" workplace and society. Social, cultural, and ethical aspects of security and privacy and related issues surrounding digital information and computer technology are discussed.

- *Credits: Three semester-hours (Three hours per week)*
-

CS120—Introduction to Programming

This course introduces students to programming constructs and techniques using high level programming languages including Java emphasizing fundamental techniques, concepts and terminology including procedural and object-oriented programming reinforced by programming assignments targeted towards solving problems. Course fundamentals cover variables, input and output, expressions, assignment statements, conditionals and branching, subprograms, parameter passing, repetition through iteration and recursion, arrays and pointers. Students learn good programming style, documentation, debugging, and testing practices. The course also emphasizes

secure programming practices that provide students an understanding of secure program characteristics and the ability to develop software without vulnerabilities

- *Co-requisite: MA 101*
- *Credits: Three semester-hours (Three hours per week)*
-

CS200 – Introduction to Programming II

Introduces more advanced sets of problems, programming, and discrete math concepts than are introduced in CS120 and applies them to the development, analysis and implementation of advanced I/O features, advanced pointer and array concepts, data structure and efficiency and portability, the standard library, and debugging techniques. The course also covers more advance features of C++, and an Object-Oriented Approach, including the use of fundamental concepts in advanced data structures and algorithms. Specific advanced topics in data structures/algorithms include (in addition to interface and inheritance, Polymorphism, Exceptions, Collections) sorting, queues, stacks, hashing, complexity analysis, relations, trees, and graphs.

- *Prerequisite*: CS120
- *Credits: Three semester-hours (Three hours per week)*

CS220—Data Management and Security

This course covers database terms & concepts, ethics & privacy, data security and security metadata, and organizational data management strategies. This course focuses on Intro to Cryptography; IA Fundamentals for Data Security –at rest & in processing; Databases; Database Management Systems; Structured Query Language (SQL) Scripting; and Database System Administration knowledge units required for Academic Excellence in Information Assurance/Cyber Defense for Two-Year Education (CAE2Y). Major emphasis is placed on understanding the various data management functions needed by organizations and Basic Data Analysis providing basic abilities to manipulate data into meaningful information. Topics include types of data models and database management systems, data definition and manipulation, database system administration and management including database security covering availability, integrity & confidentiality. Data management fundamentals and technologies that support database security, error recovery, concurrency control, and distributed database systems are also studied. Students become prepared to recommend data management technologies and security solutions, and also analyze organizational data management needs.

- *Prerequisite: CS 110*
- *Credits: Three semester-hours (Three hours per week)*

CS230 -- Data Structures

Covers the design, analysis, and implementation of data structures and algorithms to solve engineering problems using an object‑oriented programming language. Topics include elementary data structures, (including arrays, stacks, queues, and lists), advanced data structures (including trees and graphs), the algorithms used to manipulate these structures, and their application (involve the use of data structures such as stacks, queues, linked lists and binary trees. Recursion, searching and sorting algorithms) to solve practical engineering problems.

- *Co-Requisites or Pre-requisites*: CS110: Introduction to Programming I and MA112: Statistics or MA101: College Algebra
- *Credits: Three semester-hours (Three hours per week)*

CS240—Network Communications and Security

This course focuses on fundamental principles of computer and communication networking with a specific emphasis on network security. This course focuses on IA Fundamentals for Data Security –in transit; Network & Security IT Systems Components; Networking Concepts; Basic Scripting; and System Administration knowledge units required for Academic Excellence in

Information Assurance/Cyber Defense for Two-Year Education (CAE2Y). Fundamental network concepts and current networking technologies provides basic understanding of network components and how they interact, and enables students to understand communication protocol principles and usage in network design; understand network design issues addressing performance considerations and risk management in security cost-benefit tradeoff analysis. Students develop understanding on how the Internet works, how to securely integrate and manage distributed data services across networks, and how to design, specify, and justify secure networking solutions.

- *Prerequisite: CS 110*
- *Credits: Three semester-hours (Three hours per week)*

CS290—Information Systems Security

This course covers planning, development, and implementation of a comprehensive information security program in an organization covering authentication and access control, integrity and confidentiality of information, and risk management and business continuity planning. This course focuses on Cyber Threats; Fundamental Security Design Principles; Cyber Defense (CD); and Information Assurance (IA) knowledge units (KUs) required for Academic Excellence in IA/CD for Two-Year Education (CAE2Y). These KUs provide information about cyber threats, basic security design fundamentals, IA concepts, and awareness of options to mitigate threats. Additional KUs provide focus on Security Policy Development & Compliance covering Cybersecurity Planning & Security Program Management; IA Architectures, Standards & Compliance; Life-Cycle Security; Security Risk Analysis; and Supply Chain Security. Topics examine information systems security from program management and systems development perspectives by investigating security models and frameworks using National Institute of Standards and Technology (NIST) security publications and risk assessment framework to establish security processes, recommend organizational security policies and practices, and develop business continuity plans. The business continuity planning will be integrated in with college VFMC emergency response plans to test and recommend improvements to the business continuity plan developed in the course.

- *Prerequisite: CS 110*
- *Credits: Three semester-hours (Three hours per week)*

Economics – EC

EC 110 - Principles of Microeconomics

Microeconomics introduces economic analysis of individual, business, and industry choices in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, in-come distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to achieve economic objectives efficiently.

- *Credits: Three semester-hours (Three hours per week)*

EC 111 - Principles of Macroeconomics

Macroeconomics introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socio-economic goals.

- *Credits: Three semester-hours (Three hours per week)*

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English -- EN

EN100 – Writing Lab
EN 100 provides students with necessary support to be successful in EN 101 by helping them understand assignments, develop writing skills (such as thesis statements, organization, and paragraph development), improve writing mechanics (such as grammar and punctuation), and use appropriate citation methods. This course is a required co-requisite for EN 101 for students identified as requiring remedial instruction, and may be considered an elective co-requisite for EN 101 for all other students.

- *Co-requisite: EN 101*
- *Credits: Three semester-hours (Three hours per week)*

EN101 – English I
The class explains, illustrates, and practices a variety of rhetorical methods and expository patterns, which are central to academic and professional communication. Students learn to develop and defend a thesis backed by scholarly sources in essays employing an MLA documentation format. Through selected readings and writings, students are challenged to identify and compare opposing viewpoints in order to define and understand the elements of controversy surrounding the issues being investigated. Concurrently, students are introduced to methods of analyzing and synthesizing source material, the elements and structure of argument and the process of practical academic research.

- *Prerequisite: College Placement*
- *Credits: Three semester-hours (Three hours per week)*

EN102 – English II
The class introduces best practices in writing and communication in professional genres by emphasizing the assessment of rhetorical situations and crafting informative and persuasive arguments for diverse audiences.

- *Prerequisite: EN 101*
- *Credits: Three semester-hours (Three hours per week)*

EN207-- Creative Writing
This course is for students interested in creative or imaginative writing. Taught in a workshop format that allows students to develop their own styles, this course involves close readings of examples drawn from the genres of poetry, the short story, creative nonfiction, and scriptwriting. A focus on character, plot, and theme lead to student- produced original writing in poetry, short stories and either a one-act play, short screenplay or a magazine-length piece of literary journalism.

- *Prerequisite: EN102*
- *Credits: Three semester-hours (Three hours per week)*

Engineering -- ER

ER101—Introduction to Engineering

This course provides an introduction to the technical and non-technical concepts of engineering. Students will engage in projects which will integrate technical problem solving and design with ethical decision making, teamwork and communication.

- *Co-requisite: MA 101*
- *Credits: Three semester-hours (Three hours per week)*

ER105—Engineering Graphics
This course provides an introduction to engineering drawing using Computer- Aided Design (CAD) tools and free-hand sketching fundamentals. Topics include geometric constructions, orthographic and isometric drawings, dimensioning, auxiliary views, sectioning and geometric tolerancing.

- *Co-requisite: MA 101*
- *Credits: Three semester-hours (Three hours per week)*

ER201—Engineering Statics
A one semester course in rigid-body mechanics, emphasizing the principles of equilibrium condition. Also included are the vector treatment of force systems, friction and engineering applications.

- *Co-requisite: PH 201*
- *Credits: Three semester-hours credit (Three hours per week)*

ER280 – Dynamics
This course introduces students to the fundamentals of engineering dynamics, including rectilinear and curvilinear motion, translation, rotation, and plane motion; work, energy and power; and impulse and momentum. The basic principles of dynamics are applied to engineering problems. Vector methods are covered.

- *Credits: Four semester hours (four hours per week).*
- *Co-Requisites or Pre-requisites: ER201: Engineering Statics, MA104: Calculus, and MA201: Calculus II are all required to take this class.*

ER290 – Mechanics of Solids
This course covers internal forces and the deformation of solids. Students are introduced to such topics as: the analysis of deformable bodies: stress, strain, material behavior, deformation in axially loaded bars; biaxial and triaxial deformation; torsion of elastic circular members, design of shafts; axial force, shear force and bending moment in beams; design, deflection, and stresses in beams, including flexure and shear stress formulae; transformation equations for plane state of stress and strain, principal planes and stresses, Mohr's circle; compound stresses: combined axial, flexural and shear; loads and eccentric loading; and buckling including Euler's theory and Rankine's formula for columns.

- *Credits: Four semester hours (four hours per week).*
- *Prerequisite: Engineering Statics*

<u>English as a Second Language -- ESL</u>

ESL103—Intensive ESL
The Intensive English Program at VFMC helps to build practical and academic English skills. Students concentrate on developing fundamental English skills in an interactive classroom setting. Course work emphasizes those skills necessary for effective oral and written communication.

Instruction covers all areas of language development: practical vocabulary, basic language structures, and the essentials of reading, writing, listening and speaking.

- Credits: Twelve semester-hours (Twelve hours per week).

ESL105– Reading, Writing, Listening & Speaking for Academic Purposes I

This course is designed for students who are at a high-beginner to low-intermediate of English. This course provides students with intensive instruction in the areas of reading, writing, listening and speaking skills in the English language. While working on these developmental language skills, this course also prepares students with the foundational skills need-ed for college-level courses. Language lessons are taught in thematic units and U.S. acculturation lessons and trips are an important part of the course as well.

- Credits: Six semester-hours (Six hours per week).

ESL106—Reading, Writing, Listening & Speaking for Academic Purposes II

This course is designed for students who are at an intermediate to high-intermediate level of English. This course provides students with instruction to improve reading and writing skills in the English language at the collegiate level. It also prepares students with the foundational skills needed for college-level courses. Special attention will be paid to developing college level reading skills such as skimming, scanning, fluency, comprehension, making inferences, using context clues, identifying the main idea, and scanning for details. We will also focus on elements of writing such as thesis statement, topic sentence, supporting details, paragraph structure, 5 paragraph essay outline & structure, and expanding vocabulary for writing.

- Credits: Six semester-hours (Six hours per week).

ESL107 - Academic Support

This course is designed for students who are at a low-mid advanced level, and are almost prepared to exit the ESL program, but need support with the transition. This course continues to work on reading, writing, listening and speaking for academic purposes, but also provides support in areas such as TOEFL preparation and support with other courses.

- Credits: Three semester-hours credit (Three hours per week).

Fine Arts

FA102 - Discovering Drawing Fundamentals

This is an introduction to the concepts and techniques of drawing. Drawing techniques will be developed through the exploration of materials such as pencil, charcoal, ink, and pastels. This course focuses on developing basic drawing skills that will develop, disciplined observations and memory. Students will learn to analyze and interpret through drawing techniques studying portraitures, architecture, landscapes and still life. This course will be a journey through visual history exploring great Old Master's work as Leonardo da Vinci's scientific drawings to the contemporary combat artist for the United States Marine Corps Staff Sergeant Michael D. Fay, USMCR .

- Credits: Three semester-hours (Three hours per week)

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FA105 - Art History I: Prehistory to the Middle Ages

This survey course covers painting, sculpture, and/or architecture from the Paleolithic period through the age of Gothic cathedrals. Students gain a formal understanding of ancient, classical, and medieval art. They interpret selected examples of Western art using a variety of analytic

methodologies, including cultural, religious, social, political, and/or economic context. This course includes an assignment to an important museum or gallery.

-Credits: Three semester-hours (Three hours per week)

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FA110: Introduction to Film

This course is an introductory course designed for those who have little or no background in film study. The class will cover the essentials of filmmaking, including cinematography, editing, music and sound acting, directing, and writing. Students will learn the history of cinema, examine narrative structure, and interpret meaning in film. The overall goal will be to better understand and appreciate film form and style with a focus on individual films seen within their literary, artistic, and cultural contexts.

- Credits: Three semester-hours (Three hours per week)

<u>French – FR</u>

FR 101-102 - Introduction to French I and Introduction to French II

This two-semester introductory sequence provides instruction and practice in the four skill areas of listening, speaking, reading, and writing. These courses focus on the development of communicative skills in oral and written expression. In-class practice and independent oral and written exercises support these objectives. Cultural readings foster an awareness and appreciation of the values, practices, and perspectives of the French-speaking world.

- Credits: Three semester-hours (Three hours per week)

- Co-requisite for FR 101: EN 101

- Prerequisite for FR 102: FR 101 or satisfactory performance on placement exam.

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FR 201-202 - Intermediate French I and Intermediate French II

This two-semester intermediate sequence is designed to enable students to attain a functional level of proficiency in both oral and writ-ten contexts. These courses focus on the strengthening of communicative skills through practical vocabulary development and a review of basic grammatical structures. Emphasis is placed on the examination of cultural readings that explore issues from historical and contemporary perspectives, highlight Francophone practices, personalities, and achievements, and help students to develop an appreciation for the diversity of French-speaking cultures.

- Credits: Three semester-hours (Three hours per week)

- Prerequisite for FR 201: FR 101-102 or advanced placement by testing

- Prerequisite for FR 202: FR 201 or advanced placement by testing

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<u>History -- HI</u>

HI103— American Experience I

A history of the United States through the Civil War using a critical-thinking approach. Social, religious, ethnic, and economic components of major events and movements in American history will be examined. Countervailing essays on select critical issues will help cadets hone their analytical skills. Highlights of American Experience I will include studies of Native Americans, the colonial and early slave experience, the founding of our nation, the growth of a national economy, 19th century reform movements, and the rise of sectional-ism and the Civil War.

- Credits: Three semester-hours (Three hours per week)

- Co-requisite: EN 101

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HI104 - American Experience II
Highlights in American Experience II will include the rise of "Jim Crow" and segregation; the urbanization and industrialization of America, and the impact of immigration; America becoming a colonial empire and joining the international world balance of power; the effects of major war and Depression on American society; the New Deal; the transformation of America into a national security state due to World War II and the Cold War; the transformation of American society from Civil Rights to Black Power, from Women's Rights to Women's Liberation; and the anti-war movement during the Vietnam era.

- *Credits: Three semester-hours (Three hours per week)*
- *Co-requisite: EN 101*
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HI105 - World Civilization I
This course begins with the ancestors of the earliest humans in Africa and the domestication of crops and animals in the earliest river societies of Babylonia, India, and China. The course compares the development of agricultural surplus, government, cities, mythology and religion, and writing, the ancient civilizations of Sumeria and Egypt, India, China, Africa and Mesoamerica. While stressing the monotheism of the Hebrews on Christianity and Islam, the course also covers Hinduism, Buddhism, the great age of Confucius, the earliest Chinese empires, and the process of East-West trade via the Silk Road. The course outlines the Greek, Roman and Han civilizations and their empires. Also mentioned are the early Maya, Aztec, and Inca civilizations as well as the Kush, Arab states of Africa, Great Zimbabwe, slavery and the impact of the slave trade. The Mongol conquest of China, the spread of Chinese culture to Korea and Japan, and the Ming dynasty receive mention. The course compares the impact of western and eastern feudalism, the significance of the knight in Europe and the *samurai* in Japan. The rise and spread of Islam, the great Arab empires, and the contribution of Indian, Chinese, and Arab science and philosophy are noted. The course ends with the fall of Constantinople and the search for alternative sources for spices leading to the spread of western thought, militarism, and diseases.

- *Credits: Three semester-hours (Three hours per week)*
- *Co-requisite: EN 101*
- *Fulfills Civic and Global Engagement (Global) Core Competency*

HI106-World Civilization II
This course begins with the religious transformation of Europe with the Reformation. The Mughals' conquest of India and their contributions to art and architecture are stressed. The Qing dynasty and population explosion in China, the rise of Tokugawa Japan, and medieval Korea and Vietnam receive attention. The Scientific Revolution and its advances in astronomy, mathematics, and physics are recalled along with the Enlightenment of Voltaire, Montesquieu, and Rousseau. The course outlines revolutions in North and South America, France, and the impact of Napoleon. Coverage of the Industrial Revolution includes its impact on population, standard of living, as well as its economic and political impact on Africa, South East Asia, China, and eventually Japan. Nationalism, colonialism, imperialism, and competing alliances coalesced into World War I and the collapse of the Ottoman, Austro-Hungarian, Russian, and German empires. The failure of the Versailles Treaty and the League of Nations gave way to the rise of dictatorships, the Second World War, the Holocaust, and atomic weapons. Colonialism's collapse followed as well as the Cold War; its proxy wars in Korea and Vietnam are covered. The course ends with the uncertain future of globalization and the rise of Asia amidst the threat of Islamic terror-ism.

- *Credits: Three semester-hours (Three hours per week)*

- Co-requisite: EN 101
- Fulfills Civic and Global Engagement (Global) Core Competency

HI200 Special Topics
Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest

- Credits: One, two or three semester-hours (One to three hours per week), at the discretion of the instructor
- Prerequisite: EN 102

HI203 - American Military History
American Military History, 1607-2003. A one semester course in the military history of the United States from 1607-2004. Coverage includes the Jamestown colony of 1607, colonial militia systems, the wars of annihilation against Indians and the struggle for Empire among the Europeans, culminating in the American Revolution. The War of 1812, Mexican War and Spanish American Wars are dis-cussed. Emphasis is placed on the Civil War, World Wars I and II, Korean, Vietnam, Gulf War and Iraq. Topics include the civil- military relationship; the unique impact of American geography, weak neighbors, and dual military traditions; the Root reforms; the National Defense Act of 1947, and the Goldwater-Nichols Act of 1986. Major exams, frequent quizzes on assigned reading and a critical book review are assigned.

- Prerequisite: EN 101
- Credits: Three semester-hours (Three hours per week)
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HI205 - World War II
History 205 examines World War II as the central event of the twentieth century and seeks to study the war as a phenomenon in the history of the century. The course begins in 1919 and ends in 1949 with the culmination of the Chinese revolution, the Soviet atomic bomb, the Stalinization of Eastern Europe and the construction of the American Cold War consensus following the Berlin blockade and airlift. The forces, ideologies, and events which destroyed Europe's hold on its colonies are also covered with the collapse of European colonialism predicted by the Japanese onslaught in the Pacific. The military aspects covered are: war in the air, on the land, on the sea and under it. Historiography and the historical controversies are also enumerated.

- Credits: Three semester-hours (Three hours per week)
- Prerequisite: EN 101
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HI206 - The Vietnam War
A political, diplomatic, and military history of the Vietnam War from 1945 to 1975. The student will study Vietnam in its Asian and colonial context, including struggles with China, occupation by the French, the history of Indochina, the revolution of Ho Chi Minh, the battle of Dien Bien Phu, the Geneva Accords, and the division of Indochina at the 17th Parallel. Study of the American intervention centers on actions taken in the context of the Cold War under the administrations of Truman, Eisenhower, Kennedy, Johnson, and Nixon. The assassination of Diem, the Tonkin Gulf Affair, the bombing of North Vietnam, the war protest movement, the draft, and the Americanization of the war are covered. The various strategies of the French, US, and Vietnamese are compared. Nixon, Watergate, the Paris Peace talks, prisoners of war, and victory of the North over the South conclude the course. Major exams, frequent quizzes on assigned reading, a critical book review, and several small papers are assigned.

- Credits: Three semester-hours (Three hours per week)
- Prerequisite: EN 101
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Interdisciplinary Studies – IN

IN106-Leadership Theory and Practice
This class is an academic survey of leadership philosophies that are illustrated through historical and biographical case studies. Classroom presentations are strengthened by group dynamic exercises, small group leadership, interpersonal interactions and problem solving.

- *Credits: Three semester-hours (Three hours per week)*
- ***Fulfills Leadership Core Competency Requirement***

IN200 – Research Methods
This course provides a foundational understanding of the concepts and methods for researching and writing in the academic disciplines of history and political science. Combining techniques from two similar areas allows students to develop a greater ability to analyze problems and propose well-reasoned and researched solutions. By the end of the course students will be able to take the skills taught and apply them to solving problems analytically across any organizational dilemma whether in government, industry or academia.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: Any 100-level Political Science (PS) or History (HI) course*

IN202 -- Special Topics in Interdisciplinary Studies
This is a formal, but infrequently offered, professor designed course based on a set of common learning outcomes that provides a customized study of two or more of the college's disciplines. It is offered to allow students to explore areas of interest, their interactions, and their contexts in order for the student to develop new areas of knowledge and understanding. The parameters of the disciplines studied and the areas investigated should be stated clearly on the class syllabus and filed with the Provost.

- *Prerequisite: EN 102*
- *Credits: One, two or three semester-hours (One to three hours per week), at the discretion of the instructor*

Literature – LT

LT103 - Introduction to Literature
This survey course introduces students to close readings of fiction, non-fiction, poetry, and drama. Students master interpretive approaches to literature and learn to use literary vocabulary. Goals of the course include familiarization with literary elements, understand-ing historical and social contexts, improving reading and comprehension, and encouraging appreciation and love of life-long reading. Satisfies CORE Literature requirement.

- *Credits: Three semester-hours credit (Three hours per week)*
- *Prerequisite: EN 101*

LT205 - Non-Western Literature
This survey of non-Western literary traditions examines issues of cultural diversity from the perspective of writers from the Middle East, Africa, Asia, Latin America, and the Caribbean. Using the lens of cultural and historical context, students explore the uniqueness of each literary tradition as well as trace universal themes that transcend geographic boundaries. Students have a variety of opportunities for oral and written expression with emphasis on literary analysis and criticism. Authors include Salmon Rushdie, Chinua Achebe, Ngugi wa Thiong'o, Trinh T. Minh-ha, Jose Saramago, Mahmoud Darwish, Yehuda amichai, and Nasdine Gordimer.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: EN101*

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LT206 - American Literature
This study, which includes American fiction, creative nonfiction, poetry, and drama, examines themes, texts, movements, and authors who are central to development of American literature and of evolving definitions of what it means to be "American." The course offers students opportunities for oral and written expression through a variety of assignments that incorporate literary analysis and criticism. Writers may include Anne Bradstreet, Benjamin Franklin, Phyllis Wheatley, Henry David /Thoreau, Walt Whitman, Langston Hughes, Richard Wright, Amy Tan, and Sandra Cisneros.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: EN 101*

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Math – MA

MA101 - College Algebra
Topics of the College Algebra course with applications include: real and complex numbers, algebraic, exponential and logarithmic functions, graphing, and solving various types of equations including polynomial, radical and absolute value. Functions, inverse functions, graphs and transformations.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: MA 075/ VFMC Placement*

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MA103 - Pre-Calculus
Reviews topics from algebra, geometry, and trigonometry (including identities) essential for the study of calculus. Topics include analysis and graphs of polynomial, rational, exponential, logarithmic, inverse, algebraic and trigonometric functions.

- *Credits: Four semester-hours credit (Four hours per week)*
- *Prerequisite: MA 101/ VFMC Placement*

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MA104 - Calculus I
This one semester course opens with a review of precalculus functions and graphs. It progresses to a treatment of limit theory as the foundation for a fundamental understanding of differentiation. The rules of differentiation are thoroughly explored as the cornerstone of the numerous applications of the derivative in the real world. With an understanding of the derivative's role, discussion shifts to the antiderivative, where fundamental antiderivative (integration) concepts and techniques are investigated.

- *Credits: Four semester-hours credit (Four hours per week)*
- *Prerequisite: MA101/ VFMC Placement*

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MA112 - Statistics
Topics include descriptive statistics, probability distributions, random sampling, sampling distributions, and continuous and discrete distributions.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite: MA098 / VFMC Placement*

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MA201-Calculus II
This one-semester course commences with an in-depth review of the fundamental rules of differentiation and integration. Applications of the integral are covered to include: the volume and surface area of solids of revolution, arc length of curves, work, fluid pressure, and moments

and centroids. The course then transitions to an in-depth study of advanced integration techniques and the techniques used to evaluate limits of indeterminate form and the evaluation of improper integrals. The course concludes with an introduction to sequences and infinite series.

- *Credits: Four semester-hours (Four hours per week)*
- *Prerequisite: MA104*

MA 202 - Calculus III

This one-semester course commences with the study of conics, parametric equations and polar coordinates followed by an examination of vectors and the geometry of space. Vector-valued functions are studied next and then functions of several variables to include the topics of partial derivatives and multiple integration.

- *Credits: Four semester-hours (Four hours per week)*
- *Prerequisite: MA201*

Military Science – MS

MS101 - Introduction to the Army and Critical Thinking

MSL 101 is an academically challenging course where cadets study and analyze basic competencies that are critical for effective leader-ship and mission accomplishment in the Army. Cadets learn how the personal development of life-long skills such as self-discipline, learning, time management, respect for others, goal setting and comprehensive fitness relate to officership and the Army profession. Cadets learn the structure and purpose of the Army SROTC program consisting of courses MSL 100, 200, 300, 400; the Leadership Labs and the Army SROTC Cadet Leader Course. The course consists of required readings, in-class discussions, in-class small group exercises, videos, essays, a mid-term exam and a final exam. Cadets receive feedback on their performance during this class. Success-ful completion of this course provides cadets the foundation for future learning and personal growth in the SROTC Program and in the **Army.**

- *Credits: Two semester-hours (Two hours per week*
- *Prerequisite: Must be U.S. Citizen or have green card*
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MS102 - Introduction to the Profession of Arms

MSL 102 overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills and actions in the context of practical, hands-on and interactive exercises. Cadre role models and the building of stronger relationships among the cadets through common experience and practical interaction are critical aspects of the MSL 102 experience.

- *Credits: Two semester-hours (Two hours per week)*
- *Prerequisite: MS 101*
-

MS201 - Foundations of Leadership

MSL 201 explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework. Cadets practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of Army rank, structure and duties and basic aspects of land

navigation and squad tactics. Case studies provide tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operating environment (COE).

- *Credits: Two semester-hours (Two hours per week)*
- *Prerequisite: Successful completion of MS101 and 102.*
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MS202 Foundations of Tactical Leadership

This course highlights dimensions of terrain analysis, patrolling and operation orders. Further study of the theoretical basis of Army leadership framework explores the dynamics of adaptive leadership in the context of military operations. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give in-sight into the importance of teamwork and tactics in real world scenarios.

- *Credits: Two semester-hours credit (Two hours per week)*
- *Prerequisite: MS201*
- ***Fulfills Leadership Core Competency Requirement***

MS301 - Adaptive Team Leadership

MSL 301 challenges cadets to study, practice and evaluate adaptive leadership skills as they are presented with challenging scenarios related to squad tactical operations. Cadets receive systematic and specific feedback on their leadership attributes and actions. Based on such feedback, as well as their own self-evaluations, cadets continue to develop their leadership and critical thinking abilities. The focus is developing cadets' tactical leadership abilities to enable them to succeed at ROTC's summer Leadership Development and Assessment Course (LDAC).

- *Credits: Four semester-hours (Eight – Ten hours per week)*
- *Prerequisite: Acceptance by the Military Science Dept. Military Science and Leadership*
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MS302 - Applied Team Leadership

MSL 302 uses increasingly intense situational leadership challenges to build cadet awareness and skills in leading small units. Skills in decision-making, persuading and motivating team members when "under fire" are explored, evaluated, and developed. Aspects of mili-tary operations are reviewed as a means of preparing for the Leader Development and Assessment Course (LDAC). Cadets are expected to apply basic principles of the Law of Land Warfare, Army training and motivation to troop leading procedures. Emphasis is also placed on conducting military briefings and developing proficiency in garrison operation orders. MSL 302 cadets are evaluated on what they know and do as leaders.

- *Credits: Four semester-hours (Eight – Ten hours per week)*
- Prerequisite: Successful completion of MSL 301.
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MS401 - Developing Adaptive Leaders

MSL 401 develops cadet proficiency in planning, executing and assessing complex operations, functioning as a member of a staff providing performance feedback to subordinates. Cadets assess risk, make ethical decisions and lead fellow ROTC cadets Lessons on military justice and personnel processes prepare cadets to make the transition to Army officers. MSL IV cadets analyze, evaluate and instruct cadets at lower levels. Both their classroom and battalion leadership experiences are designed to prepare MSL 401 cadets for their first unit of assignment. They identify responsibilities of key staff, coordinate staff roles and use situational opportunities to teach, train and develop subordinates.

Three hours and a required two-hour leadership lab, plus required participation in three to five one-hour sessions of physical fitness training. Staff meetings with peers. Participation in weekend exercises is also required.

- Credits: Four semester-hours (Eight – Ten hours per week)
- Prerequisite: Successful completion of MSL 301 and 302.
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MS402 - Leadership in a Complex World
MSL 402 explores the dynamics of leading in the complex situations of current military operations in the COE. Cadets examine differences in customs and courtesies, military law, principles of war and rules of engagement in the face of international terrorism. They also explore aspects of interacting with nongovernmental organizations, civilians on the battlefield, and host nation support. The course places significant emphasis on preparing cadets for their first unit of assignment. It uses case studies, scenarios, and "What Now, Lieutenant?" exercises to prepare cadets to face the complex ethical and practical demands of leading as commissioned officers in the United States Army.

Four lecture hours and a required 2.5-hour leadership lab, plus required participation in three to five one-hour sessions of physical fit-ness training. Staff meetings with peers. Participation in weekend exercises is also required.
- Credits: Four semester-hours (Eight – Ten hours per week)
- Prerequisite: Successful completion of MSL 401

Nutrition – NU

NU210 – Nutrition

This course provides the foundations of understanding the science of nutrition, chemistry and physiology of proteins, carbohydrates, lipids, vitamins, and minerals. It also includes application of nutrition principles in daily dietary practice, energy balance, weight control, and nutrition relating to health and disease.
- Prerequisite: BI215
- Credits: Three semester-hours credit

Physics -- PH

PH120 - General Physics I
First of a two course, algebra based sequence that introduces students to the basic principles of Physics. Topics include kinematics, dynamics, work, energy, momentum, static equilibrium, fluids, vibrations, waves, sound, temperature, kinetic theory, heat, and the laws of thermodynamics. This course is not intended for preparation in advanced courses in Physics.
- Credits: Four semester-hours (Three hours per week, one three hour lab per week)
- Prerequisite: MA 101
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PH201 - Physics I

First of a two-semester Calculus based sequence teaching fundamental Physics to engineering and science majors. Topics include translational and rotational motion, vectors, circular motion, Newton's three laws, gravitation, kinetic energy, potential energy, conservation of momentum and energy, impulse, statics and oscillations.
- Credits: Four semester-hours (Three hours per week, one three hour lab per week)
- Prerequisite: MA 104

PH202 - Physics II
Second semester of a two-semester Calculus based sequence teaching fundamental physics to engineering and science majors. The course covers a wide range of topics in electricity and magnetism. Topics include electric charge, electric fields, electric potential, capacitance, current, resistance, DC and AC circuits, magnetic fields, induction, oscillations and waves (electromagnetic waves).

- *Credits: Four semester-hours (Three hours per week, one three hour lab per week)*
- *Prerequisite: PH 201*

Philosophy – PL

PL101-Introduction to Ethics
The subject of ethics applies to numerous fields of study, including business, medicine, the environment, social justice, and much more. This course will focus on the history of ethics from Socrates, Aquinas, and Kant to Nietzsche. The contributions of scholars and philosophers from eastern cultures will also be explored. This foundation will lead to discussions on current issues relating to freedom, equality and individual rights. Modern case studies of ethical dilemmas will be examined and debated.

- *Credits: Three semester-hours (Three hours per week)*

Political Science – PS

PS101 - American Government
The course provides a survey of the basic concepts of political science, political theory, public policy and American politics. The functions, processes and organization of government and public policy are discussed. Students will develop the ability to evaluate politics and the public policy process.

- *Credits: Three semester-hours (Three hours per week)*
- *Co-Requisite: EN 101*

PS102 - International Relations
The course is designed as an introduction to the diplomatic, economic, psychological, military, and cultural relations between states and the international order. Global issues like war, terrorism, population control, climate change, food scarcity, nuclear proliferation, immigrant migrations, resource competition and inter-civilization conflict are analyzed and discussed. Employing an interdisciplinary focus, the course examines the impact of globalization on nation state, regional, ecological, economic, military, and food security in the 21st century.

- *Credits: Three semester-hours (Three hours per week)*
- *Co-Requisite: EN 101*

PS104 - Introduction to Political Science

This course explains foundational principles of the field, introducing common terms and concepts, including political philosophies, ideologies, comparative systems of government, and international relations. The course also examines the professional and academic fields to which a political science degree is relevant.

- Credits: Three semester-hours (Three hours per week)

PS200 Special Topics
Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest

- Credits: One, two or three semester-hours (One to three hours per week), at the discretion of the instructor
- Prerequisite: EN 102

PS202 - Comparative Politics
This course examines the major conceptual explanations of state behavior through the comparison of the politics of Latin America, Middle East, Asia, Europe and Africa. Emphasis will be placed on discovering why and how countries can be compared and on the development of testable hypotheses. The concepts of political modernization, civil war, genocide, terrorism and development will be introduced.

- Credits: Three semester-hours (Three hours per week)
- Co-Requisite: EN 101
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Psychology -- PY

PY101 - Introduction to Psychology
This one semester course serves as an introduction to the study of behaviors and mental processes. It covers the major contributors, theories, and concepts significant to the development of the field, both historical and contemporary. Major areas of investigation include heredity and environment, sensation and perception, motivation, learning and social behavior.

- Credits: Three semester-hours (Three hours per week)
- Co-Requisite: EN 101

National Security -- SE

SE101– Introduction to National Security
This course surveys the current problems confronting American national interests throughout the world. General themes of terrorism, hybrid warfare, cyber warfare, and weapons of mass destruction will be discussed within the framework of specific global regions. The course is broken up into five units corresponding to the Department of Defense's Unified Combatant Command structure. The security concerns, issues, and threats within Southern, European, African, Central, and Pacific command regions will be assessed and confronted by the students. Using open source information in the form of domestic, regional, and international news media as well as historical and cultural considerations, students will be responsible for producing a policy recommendation brief. By the end of the course, a general understanding of the American national security establishment, its management of threats, and its decision-making process will be developed.

- Credits: Three semester-hours (Three hours per week)
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SE110 - Global Conflict
This course surveys the history of global conflict to provide students with the foundation of knowledge necessary for engagement in current national security conversations. In a world where the nation -state remains the dominant power broker, it is crucial for students of history,

political science and security studies to place current conflicts within a much larger historical context. Beginning at the American Revolution, the course demonstrates that perpetual conflict can be seen as the echoes of past practices of Western nation-states' attempts at gaining and maintaining hegemony. The course will discuss imperialism, nationalism, communism, religion, and how they can simultaneously be both the sources of conflict and its resolution.

- *Credits: Three semester-hours (Three hours per week)*
- *Co-Requisite: EN 101*
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SE200 Special Topic

Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest

- *Credits: One, two or three semester-hours (One to three hours per week), at the discretion of the instructor*
- *Prerequisite: EN 102*

SE210 - Terrorism and Counter-Terrorism

This course will provide a comprehensive and interdisciplinary survey of the history, theory, and modern-day political manifestations of terrorism and counterterrorism. It will also delve into some of the key areas relating to strategic and tactical responses. These will include planning, prevention, detection, disruption, and interdiction, as well as emergency response, dealing with the aftermath.

- *Credits: Three semester-hours (Three hours per week)*
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SE215 – Intelligence Studies

This course will provide students with an overview of the complexities of the intelligence field. It will include theoretical discussions of intelligence as an academic discipline as well as practical aspects such as the intelligence cycle, the intelligence community, intelligence policy, collection methods, and analytical policies. Specific emphasis will be placed on the United States with other national intelligence communities being discussed for comparative purposes.

- *Credits: Three semester-hours credit (Three hours per week)*
- *Prerequisite: EN 102*

<u>Sociology -- SO</u>

SO101 - Introduction to Sociology

This one semester course is a study of sociology as a science of social organization and interaction with contemporary reality. The course includes analysis of certain conditions of our social environment that we often ignore, neglect, or take for granted; development of a sociological consciousness, emphasizing ethics and human dignity, thorough scrutiny of group dynamics; social stratification; causes of inequalities of race, ethnicity and gender; political and economic power; education from the functionalist, conflict, and bureaucratic perspectives; concluding with examination of social change and process in the world.

- *Credits: Three semester-hours (Three hours per week)*
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SO120 - Cultural Anthropology

This course examines human culture and its role in shaping behavior. Relationships of kinship, gender, economics and technology within various cultures in various eras will be reviewed.

- *Credits: Three semester-hours (Three hours per week)*
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SO 201 - Multiculturalism
The United States is a cultural work of art: a mosaic of cultural diversity. Despite many successes in the area of equal rights and equal protection under the law, many struggle with the challenges brought on by the cultural differences that exist within many American communities. This course will focus on the many issues, problems and conflicts related to race, ethnicity, class, gender, religion and sexual orientation. Intervention and solution strategies will be discussed.

- *Credits: Three semester-hours credit (Three hours per week)*
- *Prerequisite: EN 101*

Spanish -- SP

SP 101-102 - Introduction to Spanish I and Introduction to Spanish II
This two-semester introductory sequence provides instruction and practice in the four skill areas of listening, speaking, reading, and writing. These courses focus on the development of communicative skills in oral and written expression. In-class practice and independent oral and written exercises support these objectives. Cultural readings foster an awareness and appreciation of the values, practices, and perspectives of the Hispanic world.

- *Credits: Three semester-hours (Three hours per week)*
- *Co-requisite for SP 101: EN 101*
- *Prerequisite for SP 102: SP101 or satisfactory performance on placement exam.*
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SP201 – 202 -- Intermediate Spanish I
This two-semester intermediate sequence is designed to enable students to attain a functional level of proficiency in both oral and writ-ten contexts. These courses focus on the strengthening of communicative skills through practical vocabulary development and a review of basic grammatical structures. Emphasis is placed on the examination of cultural readings that explore issues from historical and contemporary perspectives, highlight Hispanic practices, personalities, and achievements, and help students to develop an appreciation for the diversity of Spanish-speaking cultures.

- *Credits: Three semester-hours (Three hours per week)*
- *Prerequisite for SP 201: SP 101-102 or advanced placement by testing.*
- *Prerequisite for SP 202: SP 201 or advanced placement by testing.*