



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**MEASURING THE IMPACT OF MOTIVATION ON
ACHIEVEMENT AND COURSE COMPLETION RATES
IN MARINET DISTANCE EDUCATION**

by

Timothy D. Lindshield

September 2016

Thesis Advisor:
Second Reader:

Robert J. Eger III
Steven J. Iatrou

Approved for public release. Distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE September 2016		3. REPORT TYPE AND DATES COVERED Master's thesis
4. TITLE AND SUBTITLE MEASURING THE IMPACT OF MOTIVATION ON ACHIEVEMENT AND COURSE COMPLETION RATES IN MARINET DISTANCE EDUCATION			5. FUNDING NUMBERS	
6. AUTHOR(S) Timothy D. Lindshield				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number ____N/A____.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) The Marine Corps Distance Learning Network (MarineNet) is the primary source for distance education (DE) and online training for the Marine Corps. This research applies the learning theory of human motivation to archival MarineNet data to determine if motivation factors impact academic performance and course completion. The literature on motivation divides this variable into multiple types of intrinsic and extrinsic motivations. Each type of motivation has a different effect on human learning and course outcomes. To test this theory, archival data from the MarineNet was analyzed. MarineNet courses were divided into five categories based on the type of extrinsic or intrinsic motivation required for enrollment. The exam scores, failure rates, and completion rates were then calculated for each course category. The results indicate that exam scores and failure rates follow the expected trend in the literature on motivation. The results for completion rates oppose the existing literature. The results demonstrate the similarities and dissimilarities that exist between civilian and Marine Corps DE programs as well as the gap in knowledge on human learning within the Marine Corps. Several recommendations are made for bridging the gap.				
14. SUBJECT TERMS MarineNet distance education, motivation, course completion, pass rates, completion rates			15. NUMBER OF PAGES 161	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

**MEASURING THE IMPACT OF MOTIVATION ON ACHIEVEMENT AND
COURSE COMPLETION RATES IN MARINET DISTANCE EDUCATION**

Timothy D. Lindshield
Captain, United States Marine Corps
B.A., University of Kansas, 2006

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN INFORMATION TECHNOLOGY MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
September 2016**

Approved by: Robert J. Eger III, Ph.D.
Thesis Advisor

Steven J. Iatrou
Second Reader

Dan Boger, Ph.D.
Chair, Department of Information Sciences

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

The Marine Corps Distance Learning Network (MarineNet) is the primary source for distance education (DE) and online training for the Marine Corps. This research applies the learning theory of human motivation to archival MarineNet data to determine if motivation factors impact academic performance and course completion. The literature on motivation divides this variable into multiple types of intrinsic and extrinsic motivations. Each type of motivation has a different effect on human learning and course outcomes. To test this theory, archival data from the MarineNet was analyzed. MarineNet courses were divided into five categories based on the type of extrinsic or intrinsic motivation required for enrollment. The exam scores, failure rates, and completion rates were then calculated for each course category. The results indicate that exam scores and failure rates follow the expected trend in the literature on motivation. The results for completion rates oppose the existing literature. The results demonstrate the similarities and dissimilarities that exist between civilian and Marine Corps DE programs as well as the gap in knowledge on human learning within the Marine Corps. Several recommendations are made for bridging the gap.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	PROBLEM STATEMENT	2
B.	PURPOSE STATEMENT.....	3
C.	HYPOTHESES	5
II.	LITERATURE REVIEW	7
A.	HISTORY OF DISTANCE EDUCATION	7
1.	Distance Education versus E-Learning.....	9
2.	Distance Education versus Traditional Education	10
3.	Limitations of Distance Education	11
B.	MARINE CORPS DISTANCE LEARNING NETWORK (MARINET)	12
1.	Diversity of MarineNet Course Offerings.....	14
2.	MarineNet Management	16
C.	SELECTED THEORY OF LEARNING.....	16
D.	MEASURES OF EFFECTIVENESS (MOE) IN DISTANCE EDUCATION	22
1.	Program Level.....	22
2.	Individual Level	24
3.	Assessments	28
4.	Completion Rates	29
5.	Conclusion	32
III.	METHODOLOGY	33
A.	DATA	33
B.	MEASURE OF CENTRAL TENDENCY	33
C.	DESCRIPTIVE STATISTICS.....	35
D.	DATA CATEGORIZATION.....	41
E.	ASSUMPTIONS.....	47
IV.	DATA	49
A.	H1/H4: END OF COURSE (EOC) EXAM SCORE DATA	50
B.	H2/H5: EOC EXAM FAILURE RATE DATA.....	51
C.	H3/H6: COMPLETION RATE DATA.....	54
V.	DATA ANALYSIS.....	59

A.	H1: THERE IS A CORRELATION BETWEEN THE TYPE OF MOTIVATION FOR ENROLLING IN A COURSE AND THE EOC EXAM SCORES.....	59
B.	H2: THERE IS A CORRELATION BETWEEN THE TYPE OF MOTIVATION FOR ENROLLING IN A COURSE AND THE EOC EXAM FAILURE RATES.	61
C.	H3: THERE IS A CORRELATION BETWEEN THE TYPE OF MOTIVATION FOR ENROLLING IN A COURSE AND THE COURSE COMPLETION RATES.....	63
D.	H4: DE COURSES THAT MEET THE CRITERIA FOR A HIGHER EXTRINSIC MOTIVATION FOR ENROLLMENT WILL HAVE A NEGATIVE EFFECT ON EOC EXAM SCORES.....	65
E.	H5: DE COURSES THAT MEET THE CRITERIA FOR A HIGHER EXTRINSIC MOTIVATION FOR ENROLLMENT WILL HAVE A NEGATIVE EFFECT ON EOC EXAM FAILURE RATES.	65
F.	H6: DE COURSES THAT MEET THE CRITERIA FOR A HIGHER EXTRINSIC MOTIVATION FOR ENROLLMENT WILL HAVE A NEGATIVE EFFECT ON COURSE COMPLETION RATES.	66
G.	EXPLORATORY ANALYSIS	67
H.	DISCUSSION OF THE RESULTS.....	73
VI.	CONCLUSION	77
A.	SUMMARY	77
B.	LIMITATIONS.....	78
C.	RECOMMENDATIONS TO MARINENET	79
D.	FUTURE RESEARCH.....	84
	APPENDIX A. PROJECT CODE 1 COURSE LIST	85
	APPENDIX B. PROJECT CODE 2 COURSE LIST	87
	APPENDIX C. PROJECT CODE 3 COURSE LIST	101
	APPENDIX D. PROJECT CODE 4 COURSE LIST	113
	APPENDIX E. PROJECT CODE 5 COURSE LIST	123
	LIST OF REFERENCES.....	135
	INITIAL DISTRIBUTION LIST	143

LIST OF FIGURES

Figure 1.	Taxonomy of Motivation Types. Source: Deci & Ryan (2000b).	20
Figure 2.	Model for Trainee Choice in the Training Process. Source: Baldwin, Magjuka, & Loher (1991).....	21
Figure 3.	Catalog of Learning Outcomes. Source: Kraiger, Ford, & Salas (1993)	25
Figure 4.	First Enrollment in Course by Year	38
Figure 5.	First Enrollment in Course by Year and Project Code	39
Figure 6.	2015 Course Participation in MarineNet Courses by Rank (Annual).....	40
Figure 7.	2000–2016 Course Participation in MarineNet Courses by Rank (Lifetime)	41
Figure 8.	Course Quantity by Project Code	46
Figure 9.	Weighted Mean Exam Scores by Project Code (Annual and Lifetime)	60
Figure 10.	First Enrollment in Course by Year and Project Code	61
Figure 11.	Failure Rate Delta from 1st and 2nd Exam Attempt.....	62
Figure 12.	Quantity of Course Enrollments by Rank and Project Code	68
Figure 13.	Course Sample Size for Completion Rate Analysis	69
Figure 14.	Weighted Completion Rate Means by Rank Groupings and Project Code	70
Figure 15.	Courses with Quiz Coefficient of Variation	72
Figure 16.	Courses without Quiz Coefficient of Variation	73

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Project Codes	4
Table 2.	Equation Naming Convention.....	37
Table 3.	Project Code and Motivation Types	39
Table 4.	Project Codes for MarineNet Courses	43
Table 5.	Course Quantity by Project Code	46
Table 6.	Annual Exam Score Means by Project Code.....	51
Table 7.	Lifetime Exam Score Means by Project Code.....	51
Table 8.	Annual Mean Failure Rates	53
Table 9.	Lifetime Mean Failure Rates	53
Table 10.	Annual Completion Rates by Quiz Type	55
Table 11.	Lifetime Completion Rates by Quiz Type	55
Table 12.	Annual Completion Rates Weighted by Quiz Offering.....	56
Table 13.	Lifetime Completion Rates Weighted by Quiz Offering.....	57
Table 14.	Interaction Levels. Source: DOD (2001b), Brown (2014).	83

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

AEIOU	Accountability, Effectiveness, Impact, Organizational Context, and Unanticipated consequences
ADN	Advanced Distributed Network
AIM	Articulated Instructional Media
AR	Attrition Rate
BTR	Basic Training Record
CC	Course Completion
CF	Course Failure
CDET	College of Distance Learning and Training
COI	Community of Interest
CR	Completion Rate
CV	Coefficient of Variation
CY	Calendar Year
DE	Distance Education
DOD	Department of Defense
DOE	Department of Education
DON	Department of the Navy
ED	Expiration Disenrollment
EDCOM	Education Command
EDM	Educational Data Mining
EOC	End of Course
GPA	Grade Point Average
HMMWV	High Mobility Multipurpose Wheeled Vehicle
LA	Learning Analytics
LLI	Lejeune Leadership Institute
LMS	Learning Management System
LRC	Learning Resource Center
MarineNet	Marine Corps Distance Learning Network
MCBUL	Marine Corps Bulletin
MCEN	Marine Corps Enterprise Network

MCO	Marine Corps Order
MOE	Measure of Effectiveness
MOS	Military Occupational Specialty
MCU	Marine Corps University
PC	Project Code
PII	Personally Identifiable Information
PME	Professional Military Education
RC	Reserve Component
RCLF	Regional Cultural and Language Familiarization
SC	Student-Content interaction
SD	Self-Disenrollment
SDT	Self-Determination Theory
SI	Student-Instructor interaction
SS	Student-Student interaction
TE	Total Enrollments
TN	Total Non-Completion
USAFI	United States Armed Forces Institute

ACKNOWLEDGMENTS

I would like to thank my thesis advisors, Robert Eger and Steve Iatrou, for their patience and guidance over the last two years. I would also like to thank Major Michael Gavin and Major Paul Hudson of MarineNet for their willingness to provide me with any and all support that I needed to complete this project. Finally, I would like to thank my wife, Dawn Lindshield, for her patience and encouragement.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

The College of Distance Education and Training (CDET) is the administrator for the Marine Corps online distance education program known as MarineNet. Prior to the creation of CDET, the Marine Corps was dealing with a number of problems in their training infrastructure; there were more students awaiting seats for formal schools than were seats available, formal schools took Marines out of the operating forces for a long period of time, the rigid prerequisite training requirements created timing problems for the Marine Corps reserves, and the current paper military training curriculum was not integrated into military specialty training (Jones, Blevins, Mally & Munroe, 2003, pp. 641–642). CDET was tasked to address these problems through distance education and was given the mission to increase operational readiness throughout the Marine Corps. Since its launch in 1998, CDET has created over 1,800 online courses for the active duty fleet and reserve Marine force in the broad categories of military training, professional development, civilian workforce training, professional military education, language, and culture.

Like any education and training program, Measures of Effectiveness (MOEs) need to be created for distance education programs to evaluate if the goals are being met, justify the expenditure of resources, facilitate improvement in the processes, and give decision makers the information necessary to make informed decisions regarding the program (Thompson & Irele, 2003, p. 567). Currently, the primary MOE employed by CDET to evaluate the distance education program is the total number of Marines enrolled in the courses and the number of overall course completions. Individual comprehension of the learning objectives is measured by a test administered at the conclusion of the course; however, only 15% of courses have an end of course (EOC) exam and it is unclear how the exam scores are incorporated in the MOE for course improvement. Although students who complete an EOC exam receive a score at the end of the course, there are no measures in place to determine if the course provided the intended value or accomplished the intended learning objectives. For the remaining 85% of courses without an EOC exam, the completion rate is the only metric currently available.

There are other potential metrics that could be useful in the future. Since the creation of MarineNet, there has been a large volume of data collected on the student experience and the individual courses; however, there has been very little academic research on this data. Additionally, there has not been sufficient research on what insights the data being collected provide to the decision makers at CDET. By focusing on the aforementioned dataset, this thesis will begin to develop a greater understanding of the data being collected at MarineNet from the perspective of human learning and the theory of motivation. Using the academic research on motivation as a baseline, this thesis will determine what insights can be derived that may contribute to the creation of a more comprehensive MOE for MarineNet courses that account for all of the theories of human learning.

A. PROBLEM STATEMENT

The problem is that CDET does not have a validated MOE for online courses to determine if the intended knowledge and skills are being transferred to the individual Marine. The principal MOE used by MarineNet to measure the efficacy of their online holdings is the overall course enrollments and completions. This MOE provides a very high-level snapshot of the distance education (DE) program; however, it does not account for any of the psychological theories associated with human learning and cognition. Specifically, the current MOE does not account for the role of human motivation in the students' decision to enroll in a course or the decision to complete the course requirements. This is a problem because the current MOE of simply combining all courses into a single category, regardless of the course type, and extrapolating a completion rate will not provide any useable knowledge with which to make informed policy decisions. Furthermore, without a more thorough examination of the data collected by the DE courses, MarineNet cannot accurately measure the effectiveness of the online courses or determine the level of combat effectiveness achieved through a course completion.

B. PURPOSE STATEMENT

The purpose of this study is to begin the examination of variables that can contribute to more effective MOEs for CDET online courses. The independent variable of motivation will be defined as the predominate type of intrinsic or extrinsic motivation that a student would possess to enroll in a particular DE course. Intrinsic motivation is defined as the personal drive to participate in an activity for the satisfaction of learning rather than the desire to achieve an external reward (like a promotion or recognition). Therefore, for intrinsically motivated students, the reward received would be the activity itself. Extrinsic motivation, on the other hand, is defined as the act of completing a course to obtain a secondary outcome instead of a deep personal desire to learn the information (Ryan & Deci, 2000a). Therefore, for extrinsically motivated students, the reward for completing a course could be a promotion or some other form of external recognition.

Motivation will be subdivided into five categories or Project Codes (PCs) for this thesis. Courses will be assigned one of 5 PCs by the type of motivation required to enroll in the course. A course that is mandatory signifies the user has no choice in the completion of the course and will be assigned PC 1. A course that is not mandatory; however, is required to advance to the next rank will be assigned PC 2. A course that is specific for military occupational proficiency and encouraged for skill progression, but not required will be assigned PC 3. A course that is not mandatory and not required for career advancement, but can potentially increase competitiveness among peers will be assigned PC 4. Finally, a course that is not mandatory for promotion or designed to advance occupational proficiency, and instead has the purpose of advancing individual personal development will be assigned PC 5. These variables will be controlled by selecting courses that meet the criteria of each PC based on the course description, the MarineNet course categorization process, and the relevant DOD publications. The PCs and associated motivation types are depicted in Table 1.

Table 1. Project Codes

Project Code	Description	Motivation Type
1	Required training that must be conducted to satisfy an annual, job, or licensing requirement	External Regulation (highest extrinsic)
2	May be required or encouraged for promotion and/or career advancement	Introjected Regulation (moderate to high extrinsic)
3	May be required or encouraged for MOS Specialization and/or proficiency training	Identification (moderate extrinsic)
4	Not required, but may be encouraged for career competitiveness	Integrated Regulation (low to moderate extrinsic)
5	Not required, professional development	(Lowest extrinsic to low intrinsic)

The dependent variable for this study will be the EOC exam score received by the student at the completion of the course. The EOC exam score will be defined as the overall exam score received by the student upon completion of the course. The second dependent variable will be the completion rate of the DE course for the courses that do not offer an EOC exam. Completion rates will be defined as the ratio of student enrollments that successfully complete the course. This research is important because it will provide a deeper understanding of the data currently being collected by CDET and serve as a future building block for a more comprehensive MOE. As technology delivered education increasingly becomes an important medium for delivering education and training, the Marine Corps will need to incorporate and understand the factors that impact individual learning, such as the motivation to learn (Klein, Noe, & Wang, 2006).

C. HYPOTHESES

This research will examine a null hypothesis and three primary hypotheses. Each primary hypothesis has a corresponding sub-hypothesis.

(1) Primary Hypotheses

- H0: There is no correlation between the type of motivation for enrolling in a course and the student performance in DE courses.
- H1: There is a correlation between the type of motivation for enrolling in a course and the EOC exam scores.
- H2: There is a correlation between the type of motivation for enrolling in a course and the EOC exam failure rates.
- H3: There is a correlation between the type of motivation for enrolling in a course and the course completion rates.

(2) Sub-Hypotheses

- H4: DE courses that meet the criteria for a higher extrinsic motivation for enrollment will have a negative effect on EOC exam scores.
- H5: DE courses that meet the criteria for a higher extrinsic motivation for enrollment will have a negative effect on EOC exam failure rates.
- H6: DE courses that meet the criteria for a higher extrinsic motivation for enrollment will have a negative effect on course completion rates.

THIS PAGE INTENTIONALLY LEFT BLANK

II. LITERATURE REVIEW

There is an abundance of research on the subject of distance education (DE) and the field of DE is continuing to evolve as new technologies and best practices are being developed. For this study, the definition of DE will be taken from a highly recognized definition from Schlosser and Simonson (2006) that defined DE as an “institution-based, formal education where the learning group is separated, and where telecommunications systems are used to connect learners, resources, and instructors” (p. 1). DE is not solely an alternative medium for formal education as it can also be an effective platform to deliver training objectives within an organization. This is especially true for the Department of Defense (DOD). Therefore, a distinction will be made between education and training. Training, according to Tobias and Fletcher (2000, p. ix), is the delivery of learning objectives with an emphasis on efficiency, that will accomplish a relatively short term goal to prepare the participant to perform a specific task and /or job. Education has much broader goals where the exact application of the knowledge and skills learned by the student is not designed for a specific application and can be applied to multiple contexts over a lifetime (Tobias & Fletcher, 2000, p. 4). Since the scope of this research does not necessitate a clear separation between training and education, the term DE will be used to refer to both education and training.

A. HISTORY OF DISTANCE EDUCATION

DE has evolved in parallel with the advancement of technologies in communication. As early postal services developed in the American colonies, correspondence education also began to develop. In 1728, an advertisement was published in the Boston Gazette newspaper that offered subscribers an opportunity to receive weekly shorthand (abbreviated handwriting techniques) lessons through the mail (Harting & Erthal, 2005). Correspondence education was formalized in England under Sir Isaac Pitman when he established the Phonographic Correspondence Society in the 1840s and provided his students with shorthand lessons including feedback through the mail (Simonson, Smaldino, Albright, & Zvacek, 2009, p. 36). Fifty years later in the

1890s, businesses began to use DE as another way to provide training to their employees through mail correspondence. In 1891, Thomas J. Foster established the Colliery Engineer School of Mines in Pennsylvania and distributed correspondence courses on mining trade and the prevention of mining accidents to prospective miner applicants (Moore & Kearsley, 2012, pp. 24–25).

The United States military also began to recognize the potential benefits of DE prior to World War II. After the success of previous DE trials, the United States military formally entered the correspondence education business in 1941 by establishing the United States Armed Forces Institute (USAFI) in Madison, Wisconsin. As the USAFI DE courses gained popularity, the organization would eventually offer more than 200 correspondence courses to over 500,000 military members. The subjects of the DE courses ranged from entry level elementary courses, high school and college level education courses, as well as vocational and technical courses (Moore & Kearsley, 2012, p. 28).

As the communication technology progressed, the new media platforms of radio and television began to be incorporated into DE. In 1921, the Latter Day Saints' University was issued the first federal government educational radio license in Salt Lake City (Moore & Kearsley, 2012, p. 29). The University of Wisconsin under Charles A. Wedemeyer began a program that combined college level coursework with television based instruction for the first time in 1958 (Diehl, 2013, p. 40). The success of this project became the foundation for the establishment of the Articulated Instructional Media Project (AIM). AIM was the first organization to test DE as a stand-alone educational system designed to join multiple communication technologies together in order to provide low cost and high quality education to distance learners (Moore & Kearsley, p. 32). AIM also the first to test a new hypothesis that self-directed learners would be more successful if given the opportunity to choose the teaching medium or technology that was the most beneficial to their individual learning styles. Beginning in 1971, the success of AIM inspired the creation of open universities throughout the world that provided only DE courses instead of traditional face-to-face courses (Moore & Kearsley, 2012, p. 33).

The introduction of personal computers, fiber optic cable, and the World Wide Web has further contributed to the dramatic growth in the popularity and accessibility of DE (Simonson et al., 2009, p. 39). Many universities and academic institutions are now providing a mixture of traditional face-to-face courses and distance learning courses in a technique called blended learning. Additionally, through the utilization of networked Internet technologies, organizations are now able to exercise more creativity in how information is presented and have the potential to reach a much broader audience through modern broadcast techniques (Rosenberg, 2001, p. 28–29). The ubiquitous role that current technologies have played in the 21st century has helped make DE technologies more affordable compared to traditional face-to-face education. With the decreased costs and high availability, educational institutes and business organizations alike now have the flexibility to determine the most effective combination of learning technologies that suit their needs while paying the lowest possible price (Harting & Erthal, 2005).

1. Distance Education versus E-Learning

DE is frequently used interchangeably with E-learning; however,, there is a distinction that will be addressed. DE generally denotes a geographic distance between the student and the instructor and generally serves populations who cannot physically attend a formal class. Additionally, DE has traditionally been a method to provide education or training opportunities to a larger number of students for a smaller cost comparably to a brick and mortar school (Guri-Rosenblit, 2005). E-Learning encompasses all types of students at all education levels and is generally a supplement to face-to-face instruction. E-Learning is defined as the use of all types of networked Internet technologies to deliver educational materials (Rosenberg, 2001, pp. 28–29). For example, many universities will have an E-learning online collaboration website that includes additional learning resources to supplement the face-to-face instruction. Since there is a notable difference between DE and E-learning, each will be used as distinct terms in this thesis.

2. Distance Education versus Traditional Education

Since the popularity of DE programs amid universities and organizations has exploded over the last several decades, there has been a significant amount of research conducted to compare DE with the traditional face-to-face approach as an educational platform. With the comparison question as the goal, the Department of Education (DOE) conducted a meta-analysis of over a thousand studies from 1996 to 2008 and concluded that the research suggests DE provided students an advantage over face-to-face instruction by allowing for more time to conduct the coursework, provided more educational materials to reference, and enabled more opportunities for collaboration (DOE, 2009). The same DOE meta-analysis concluded that student outcomes were higher, on average, for online instruction compared to the same course taken face-to-face (DOE, 2009). The report also highlighted that drawing conclusions from the comparative research is troublesome since the online and face-to-face course settings differed with every study. Another meta-analysis conducted by Bernard, Abrami, Lou, Borokhovski, Wade, Wozney, Wallet, Fiset, and Huang (2004) reviewed 232 empirical studies from 1985 to 2002 that compared DE with face-to-face instruction on the basis of achievement, attitude, and retention. The analysis revealed that there were a large amount of DE examples that outperformed the face-to-face instruction; however, there was an equal amount of examples where DE underperformed. The study concluded that it is incorrect to conclude that DE is equivalent, better, or worse than face-to-face instruction simply based on mean effect sizes and heterogeneity (Bernard et al., 2004).

On an individual level, the research suggests that DE is more convenient and flexible for students with external obligations or competing time interest such as employment or a family (Wuensch, Aziz, Ozan, Kishore, & Tabrizi, 2008). The traditional face-to-face educational models normally require a rigid adherence to specific working hours that may be impossible for students with other obligations. Another benefit of DE is the elimination of geographical separation as an impediment to receiving formal education. With the distance barrier gone, rural individuals, deployed military, and even the incarcerated can have the ability to better themselves with DE (Dalziel, 2003, p. 664).

For the organizational or university level, DE offers a wide variety of benefits. The literature indicates the cost for developing and operating a DE program is much less comparably to a traditional face-to-face instruction (Rosenberg, 2001, p. 30). Organizations such as the military save money by providing members the ability for continuing education without shouldering the expense of formal schools, the travel and lodging required, and the loss of readiness while the member is attending a school (Wisher & Champagne, 2000, p. 388). Scalability is another benefit of DE over traditional face-to-face instruction. DE can provide organizations with the flexibility to quickly scale up or down the number of participants in the program in relatively short amount of time. DE instructional materials can be standardized or customized much faster depending on the needs of the organization (Rosenberg, 2001, pp. 30–31). In addition to avoiding the loss of productivity from employees attending formal schools, DE does not require strict adherence to business hours. Therefore, organizations have more flexibility to schedule DE activities at a convenient time in order to reduce productivity loss (Appana, 2008).

3. Limitations of Distance Education

With the multitude of research on the benefits of DE, there has been equivalent research on the limitations. As stated previously in the DOE meta-analysis, there was not a comprehensive theory governing the design and administration of online DE courseware. The lack of standardization does make it difficult for researchers to conduct comparison studies or determine the effectiveness of DE programs (DOE, 2009). Additionally, the lack of course standardization and the multitude of potential course architectures have the potential to create significant confusion and friction for the students who must adapt for each different design or technology (Simonson, Schlosser, & Orellana, 2011).

Limitations at the individual level include the requirement for DE students to have access to a high speed Internet connection and a compatible computing device. Depending on the quality of the DE platform or local Internet service, the participant may be subjected to technical delays or compatibility issues. Language barriers between the

participant and the educational materials may also exist with minimal outlets for recourse. Asynchronous DE courses or self-directed courses do not provide the normal feedback between the student and the instructor and does require the participant to learn individually regardless of their learning style (Appana, 2008). Without formal classes, peer collaboration, or instructor engagement, the responsibility for course progression can be primarily the responsibility of the student. As a result, the research suggested the attrition rates for DE are higher when compared to face-to-face instruction (Moody, 2004).

At the organizational or university level, DE does require a significant monetary investment up front prior to implementation. In order for organizations to receive a return on investment even with the relatively small costs of maintaining the DE program after implementation, a DE program can become dependent on a large student enrollment in order to achieve the cost savings over face-to-face instruction (Jung, 2003, pp. 663–671). Once the program is implemented there are still significant challenges in managing, maintaining, and updating the courseware. After the initial investment of resources to develop the customized and high quality materials, the process of filtering, updating, and revising material can be very difficult, especially if the materials were produced over several years from different vendors (Guri-Rosenblit, 2005). Furthermore, the rapid pace of software development could force the organizations to make costly decisions on whether to evolve the DE program to keep pace with technology even though implementation for this change could be much slower (Simonson et al., 2011). For organizations shifting from traditional to DE instruction there may also be a potential for fierce internal resistance to this change. If not corrected, organizational resistance to the shared vision may detract from the goals of the DE program (Simonson et al., 2011).

B. MARINE CORPS DISTANCE LEARNING NETWORK (MARINET)

The DOD began to prioritize and examine the real potential of DE following the Persian Gulf War in 1991. At this time the various Reserve Component (RC) readiness levels and training opportunities were determined by Congress to be inadequate. To correct this deficiency, the DOD began to explore different ways to use emerging

technologies and the Internet as an alternative to provide training for the distributed RC communities (DOD, 1999). The preliminary efforts to create the Advanced Distributed Network (ADN) were very successful and the DOD was later ordered by Congressional and Executive actions to expand the effort to the entire DOD (Strom Thurmond National Defense Authorization Act; Executive Order No. 13111, 1999).

The Marine Corps received initial funding in fiscal year 1999 and completed a pilot project designed to evaluate the three functional elements of the Marine Corps Distance Learning Network (MarineNet): distance learning infrastructure, the course design process, and the program management capabilities (Jones et al., 2003, pp. 648–649). The overall goals of the Marine Corps distance learning program were to improve individual and unit performance, increase promotion opportunities for all Marines, prepare Marines for new tasks, train Marines on new equipment being fielded, improve training opportunities for civilian workforce, improve communications between operating forces and the formal school houses, and achieve interoperability with DE programs from other services (USMC, 2003). The College of Distance Education and Training (CDET) under the Marine Corps University is the current manager of the Learning Management System (LMS) and MarineNet infrastructure over the Marine Corps Enterprise Network (MCEN). Additionally, MarineNet is charged with collecting and maintaining the data pertaining to course enrollments, tracking, and completion statistics (USMC, 2012).

MarineNet courses provide the Marine Corps with the ability to offer standardized training and educational content throughout the Marine Corps. The courses are designed to serve both broad and specialized applications in the subjects of military training, professional military education, language and culture, family and personal development, civilian workforce training, and professional development courses (MarineNet, 2016). Individual Marines can access the MarineNet courses in both garrison and deployed environments over the MCEN utilizing government provided computers, approved networked devices, and Learning Resource Centers (LRCs) which are provided on all major Marine Corps bases worldwide. From the inception of MarineNet to the present time, the Marine Corps DE program has become a pillar in the Marine Corps training and education architecture in both garrison and deployed environments.

1. Diversity of MarineNet Course Offerings

In order to achieve the goals of MarineNet, hundreds of DE courses have been created in a variety of subjects. The incentives for Marines to enroll and complete a course are very diverse and range from mandatory to completely optional. Some DE courses have even been deemed equal in importance as the prestigious resident leadership courses that are designed to prepare Marines for subsequent ranks and responsibilities. These leadership courses are not mandatory for Marines to complete, but they are required for promotion as a method to encourage individual initiative. Below is a sample of courses that are part of the Professional Military Education (PME) program for multiple ranks:

- Leading Marines DE Program (requirement for promotion to E-4)
- Corporals Course DE Program (requirement for promotion to E-5)
- Sergeants Course DE Program (requirement for promotion to E-6)
- Career Course DE Program (requirement for promotion to E-7)
- Advanced Course DE Program (requirement for promotion to E-8)
- Expeditionary Warfare School DE Program (requirement for promotion to O-4)
- Command and Staff DE Program (requirement for promotion to O-5)

Other courses are completely optional and may not provide any tangible benefit to a Marine's promotion opportunities; however, the course may offer personal or professional growth in different subject:

- Microsoft Application Training
- Certification Preparation Training (A+, Network+, CISSP, CISM, .NET, C#)
- Basic Grammar and Composition
- Punctuation
- Basic Instructor Skills Course

Other courses are very specialized and are targeted to Marines with a particular Military Occupational Specialty (MOS). These types of courses may supplement formal schoolhouse instruction and may or may not be required by individual commands:

- M1A1 Armament and Ammunition (Tank Community)
- M777A2 Howitzer Section Chief (Artillery Community)
- Fundamentals of Diesel Engines (Motor Transport Community)

Other courses are used to supplement formal certification or licensing programs by blending online and traditional instructions within the Marine Corps:

- Incidental Motor Vehicle Operator Curriculum for the HMMWV (Requirement for HMMWV license).
- Joint Terminal Attack Controller Primer Curriculum (MarineNet, 2016)

Other courses are mandatory for all Marines or only select Marines to complete as part of annual or calendar year training requirement. Every year, the Commandant of the Marine Corps publishes the Marine Corps Bulletin (MCBUL) 1500, which establishes the annual training and education requirements for the Marine Corps. This document is designed to update the training and education requirements that are mandatory for all Marines and how the training must be delivered. MarineNet is one of the platforms that the Marine Corps does utilize to deliver required training. For example, in 2015, all Marines were required to access login into MarineNet and complete the following courses for specific training requirements (United States Marine Corps, 2015):

- USMC Personally Identifiable Information (PII) Annual Training
- DOD Cyber Awareness

The MCBUL 1500 published in 2015 did not require the following courses to be conducted on MarineNet specifically; however, MarineNet was listed as an acceptable platform for the annual training which provided commanders with the option to use MarineNet or a classroom format to deliver the following training requirements.

- Tobacco Cessation
- Operational Security
- Joint Anti-Terrorism Level 1 / Counter Intelligence Awareness

- Records Management Training
- Violence Prevention Awareness
- Combating Trafficking in Persons Awareness

2. MarineNet Management

Courses are not maintained throughout the life cycle by MarineNet. Instead, each course has a Marine Corps entity that serves as the course sponsor. The sponsor can be a unit within the Marine Corps that may have the resident expertise in the subject matter. For example, a course about infantry tactics will most likely be sponsored by an infantry command. When a course is proposed, the sponsor will assist the developers in the creation of the course and help determine the assessment criteria. Following the release of the course, MarineNet will provide the sponsor with statistics relating to the course enrollments, completions, and help desk incident reports (MarineNet, 2015). Following the activation of the course, the sponsor is responsible for ensuring the course content is still accurate, relevant, and achieving the intended learning outcome. If not, the sponsor is charged with assisting the software developers in updating the material or if the course is deemed undeserving of an upgrade the sponsor is charged with the recommendation of course removal (MarineNet, 2015).

MarineNet monitors the performance of the entire DE network and collects data that can be utilized for Measures of Effectiveness (MOE). Course enrollments and completions are used to track progression and course performance. The attendance records of the LRCs (computer centers on every major Marine Corps base) throughout the world are collected to capture and monitor usage. Additionally, many courses require an individual Marine to complete an assessment as part of the instruction and these scores are captured to identify trends. Finally, the stability of the website and responsiveness of the help desk are monitored to measure performance characteristics (USMC, 2003).

C. SELECTED THEORY OF LEARNING

In order to develop appropriate MOEs for MarineNet DE courses, the academic literature should be a guide to select and measure variables that have been shown to

contribute to higher learning outcomes. This section will examine a theory of learning that if applied correctly, is highly supported by the literature to shape learning outcomes. The learning theory selected for this research is the motivation of the student. Specifically, the motivation for the student's decision to enroll and either complete or not complete a DE course. The following section will review the relevant literature regarding the theory of motivation that is the basis for this research.

Theory of Learning: Motivation

The research has suggested that student motivation in traditional education correlates with student performance, student engagement, and student persistence in the education process (Hartnett, St. George, & Dron, 2011). Furthermore, the student test performance and learning outcomes in traditional education are also related to the participant's motivation to learn (Tannenbaum, Mathieu, Salas, & Cannon-Bowers, 1991). For DE programs specifically, the motivation of the student has also been widely accepted as crucial to a successful learning experience (Simonson, Smaldino, Albright, & Zvacek, 2009, p. 83). The student's motivation to learn has also been associated with student achievement and success in online learning environments (West, Hannafin, Hill, & Song, 2013). For self-paced online learning environments like the MarineNet courses used in the present study, the research has indicated that motivation is consistent with a traditional learning environment and thereby related to positive learning outcomes (Artino, 2007). The following paragraphs will define motivation in depth including the subcategories that are expressed in the literature.

Motivation in the context of education is defined as the distinct aspiration of the student or trainee to learn the subject matter of the educational or training program (Noe & Schmitt, 1986). The level of motivation of a student is a function of the student's belief that the information presented during the educational experience is meaningful and has value (Kanfer & McCombs, 2000, p. 92). The student motivation can also be impacted by the manner in which the education is presented by the organization or the subject matter. For example, the literature has shown that student motivation may be influenced by the purpose of the training, the manner in which the training is presented, the level of interest

in the subject matter, and the student's personal attitudes and beliefs (Kanfer & McCombs, 2000, p. 85).

Motivation is not a binary function of either high or low. In addition to the level of motivation a student may possess, the type of motivation must also be considered (Ryan & Deci, 2000a). The Self-Determination Theory (SDT) proposed in 1985 by Richard Ryan and Edward Deci suggested that motivation is very complex and must be divided into different categories that are dependent on the purpose for participating in the behavior (Ryan & Deci, 2000a). The two general categories of motivation are intrinsic and extrinsic motivations. Intrinsic motivation is the drive to participate in an activity for the satisfaction rather than for the achievement of an external reward (like a promotion or recognition in the military context). Therefore, for intrinsically motivated students, the reward received is the activity itself (Ryan & Deci, 2000a). For the context of this study, a Marine with intrinsic motivation may participate in the DE resources because he/she is truly interested in learning the content. Extrinsic motivation, in contrast, is the drive to participate in an activity in order to receive an external reward (Ryan & Deci, 2000a). The external rewards may include, but are not limited to career advancement, higher assessment scores, monetary incentives, or the avoidance of negative consequences for not completing the task. External rewards for the military may include promotion opportunities, desirable billet opportunities, successful combat performance, the avoidance of reprimands, and the adherence to rules and regulations within the military. In the context of this study, a Marine with extrinsic motivation may utilize the DE to achieve a reward mentioned above and not for the inherent satisfaction of the courseware (Ryan & Deci, 2000a).

Extrinsic motivation is much more complex than simply participating in an activity for a reward. SDT further divided extrinsic motivation into four categories; External Regulation, Introjected Regulation, Identified Regulation, and Integrated Regulation (Ryan & Deci, 2000a). External Regulation can be described as the opposite end of the spectrum from intrinsic motivation. An individual with external regulation will participate in an activity to receive an external reward that is tangible or to avoid a punishment (Harnett et al., 2011; Ryan & Deci, 2000b). The member under external

regulation has little autonomy and could be subjected to external influences that dictate the need to participate in the activity (Ryan & Deci, 2000b). An example of external regulation would be a Marine who will complete an online course to avoid punishment or to become more competitive for promotion.

Introjected regulation is more internal and can involve personal self-esteem or personal ego as a motivation to participate in the activity. For introjected regulation, the pressure to act will be internally motivated and the activity may be conducted to avoid negative feelings of guilt or anxiety. The origination of these feelings can be related to external factors such as the desire to please someone or the fear of disappointing others (Harnett et al., 2011). Similarly, activities that are motivated by introjected regulation may originate from the desire to validate personal importance or to enhance personal pride (Ryan & Deci, 2000a). An example of introjected regulation would be a Marine who participated in exercise to maintain physically fit for the purpose of competitiveness among peers or to avoid disappointment or shame from others and not necessarily for the enjoyment for the activity.

Identified Regulation is more autonomous and may involve the internal realization that a particular activity could be beneficial and the participant will eventually acknowledge the value of the activity (Harnett et al., 2011). For example, a Marine may identify that learning Pashtu will be beneficial not only for a planned deployment to Afghanistan, but also for a future goal to study foreign language at a university. Identified regulation is different from external regulation because the rewards are more internally focused (Ryan & Deci, 2000a). The final subcategory of extrinsic motivation is Integrated Regulation. Integrated regulation is characterized by the alignment of an external regulation with a person's own personal beliefs. Participants who engage in an activity with integrated regulation have accepted or identified the activity as important and may adopt the activity into their personal belief system (Harnett et al., 2011). Integrated regulation is very similar to intrinsic motivation because the motivation is generally internally driven for the decision to engage in the activity. Even if the activity is valued by the individual, the reward is still an external outcome because the reward is related to the source of the external regulation and not the activity itself (Ryan & Deci,

2000a). Utilizing the same exercise analogy, integrated regulation would be a Marine who will exercise frequently because the activity is consistent with the individual's personal beliefs of physical fitness and not necessarily out of enjoyment for the activity. Figure 1 depicts the various types of intrinsic and extrinsic motivations in the Ryan and Deci (2000b) taxonomy of motivation types.

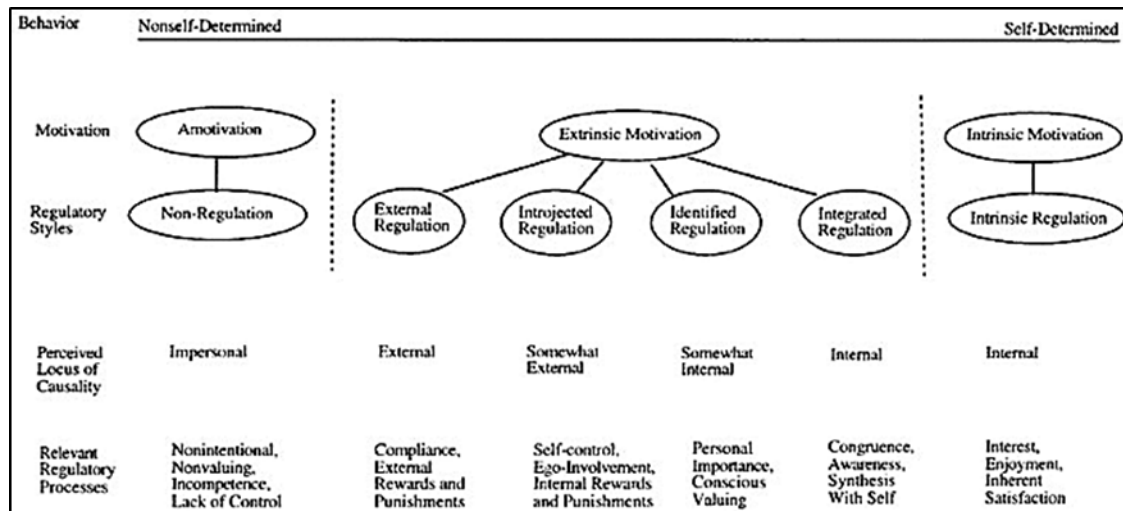


Figure 1. Taxonomy of Motivation Types. Source: Deci & Ryan (2000b).

The degree of choice that a participant is given to participate in the training has been demonstrated by the literature to contribute to the level of motivation (Kanfer & McCombs, 2000, p. 89). Training that is voluntary for the participant would reflect a high degree of choice whereas training that is mandated by the organization would be a low degree of choice. The research has suggested that participants who are given the freedom to choose the educational or training program have more motivation and, in some cases, achieved greater learner outcomes (Kanfer & McCombs, 2000, p. 101). A study by Baldwin, Magjuka, and Loher (1991), found that college students who were given the choice to attend various training modules instead of a mandatory attendance policy exhibited higher learner motivation than students who were not given the choice. Interestingly, the same study also cautioned organizations from providing a choice to students if the choice will not be honored. The study found that giving students a choice will have a negative impact on learner motivation if the desired training choice is not

granted (Baldwin et al., 1991). Therefore, if choice is offered to students as a way to increase motivation, than it is imperative to follow through and grant the students' choice or individual motivation will decline. The Baldwin et al. (1991) study in Figure 2 demonstrated the powerful influence that choice can have on individual motivation.

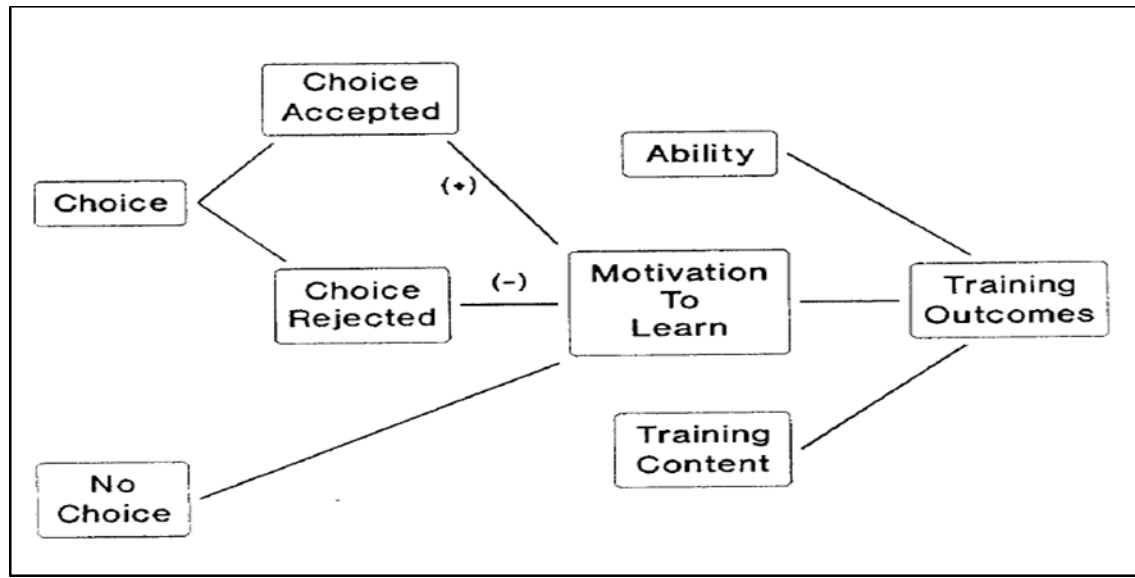


Figure 2. Model for Trainee Choice in the Training Process. Source: Baldwin, Magjuka, & Loher (1991)

Another study conducted by Hicks and Klimoski (1987) reinforced the importance of choice outside the academic environment in the business world. For this study employees were either given the choice to attend different workshops or not given a choice. The results of the study found that employees who were given the choice of training demonstrated a higher level of post-training knowledge and achieved higher test scores than employees who were not given a choice in the training. A similar workplace study by Mathieu, Tannenbaum, and Salas (1992) found that employees reacted more positively to training and attributed more value to the training if given the choice than compared to employees who were not. In the military context, a study found that military students who were allowed to choose an elective course for an academic curriculum believed the course was more valuable, were more satisfied with the course, and believed they experienced a higher degree of learning than students who were enrolled in

mandatory courses (Artino, 2007). Therefore, choice has been shown to play an important role in both the motivation to learn and post training learning outcomes in numerous environments in both traditional and DE programs.

The extensive research has demonstrated the importance of motivation in shaping the learning outcomes and attitudes of the participating student. The literature has suggested that motivation has similar effects on student performance in both traditional face-to-face education and DE. The different classifications of explicit and implicit motivations each have very different effects on individual performance and should not be treated as a single variable. The categorization of motivation has enabled researchers to measure the effects that motivation has in a variety of educational contexts from external regulation to intrinsic regulation. This research will contribute to the body of knowledge by measuring the effect that motivation has in the context of MarineNet DE courses.

D. MEASURES OF EFFECTIVENESS (MOE) IN DISTANCE EDUCATION

A good practice for every educational institution or organization providing educational services is to develop metrics to determine if the program is meeting the stated objectives. DE programs are no different than traditional education in the need for value-added metrics. In the civilian academic DE context, the literature has provided a variety of metrics that can be used to measure how well a DE program is achieving the desired goals. When referring to MOEs for education, it should be noted that metrics can be used to measure the effectiveness of the DE program as a whole or the quality of student learning at the individual level.

1. Program Level

At the program level, there are a variety of approaches available to evaluate the effectiveness of an organization's DE program. Although not utilized in this research, a MOE approach that has been experimented in several educational contexts is the Accountability, Effectiveness, Impact, Organizational Context, and Unanticipated consequences (AEIOU) framework. The five components of this framework attempt to determine whether the original goals of the DE program were achieved. The AEIOU

framework also attempts to determine if the program is generating the intended result for the organization which may be separate than the original program goals.

The first component *Accountability* is primarily focused on the parties or sponsors who originally created the concept for the DE course. The responsible individuals are usually tasked with determining whether the original goals were achieved. Relevant variables in this component are administrative data points such as the actual number of students enrolled, the total number of courses created in the collection, or the actual number of student course completions when compared to the original goals or objectives (Simonson et al., 2009, p. 352). The second component *Effectiveness* is designed to evaluate the value of the program or course. This can be accomplished by an analysis of student grades as a whole to determine if they meet the organizations' expectations. For this component, student surveys are used to measure attitudes of value regarding the program and the opinions of course quality. Third parties may be utilized during this step to evaluate the program or course to determine if expectations are being met from an outsiders' perspective (Simonson et al., 2009, p. 353). The third component *Impact* may be more complicated to measure. The main purpose of the impact component is to determine what impact the program or course had on the larger organization compared to the original goals of the program. This component may require more qualitative measures such as surveys, interviews, observations, or other methods over a period of time to determine long and short term impacts (Simonson et al., 2009, p. 353). The fourth component *Organizational Context* is centered on the organization's structure, policies, or methodology that have either encouraged or discouraged the DE program or individual courses from achieving its objectives. Interviews are conducted during this step and focus mainly on the leadership of the DE program and the key leaders that are in charge of implementing the program. Additionally, the leadership who are charged with evaluating the DE program are encouraged to place themselves in the same context as the intended audience in order to accurately gauge the DE environment (Simonson et al., 2009, p. 354). The fifth and final component of the AEIOU methodology is the *Unanticipated Consequences*. The purpose of this phase is the determination of any positive or negative effects that have occurred as a result of the DE program or individual courses. The data

collected is primarily qualitative and can include the collection of interview data, surveys, and other information that could reveal unexpected consequences. An example of an unintended consequence could be the frequency of a new maintenance problem following the release of a related DE maintenance course which may signify a potential courseware problem. Another example in the military context could be an increase in amount of Non-Commissioned Officers who are not comfortable leading a classroom instruction because many of the low level training opportunities may have been converted into DE courses (Simonson et al., 2009, p. 354–355).

2. Individual Level

On the individual level, a MOE for a DE course can be the determination of whether the learning outcomes of the course or program were achieved. Learning outcomes are defined as any type of change to the student's knowledge level that was aligned with the goals of the instructor (Shute, Lajoie, & Gluck, 2000, p. 182). Formal learning outcomes are traditionally statements that describe what the student will gain from the instruction and are usually provided to the students at the beginning of the course. The design of effective learning outcomes are important for any type of education or training course; however, learning objectives are particularly important for DE courses because the student is generally working independently without access to peers or an instructor (Naidu, 2013, p. 269). It is critical for DE organizations to craft learning outcomes that are aligned with the goals of the program (Kearsley, 2013, pp. 428–429). Due to this complication, the literature suggests that learning outcomes should be divided into separate categories to provide more specificity.

One of the first recognized methods for categorizing individual learning outcomes that went further than simple information recall was proposed by Benjamin Bloom in 1956. Bloom's model of learning outcomes contained six different distinguishable outcomes; Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation (Bloom, 1956, p. 18). Building off of Bloom's model, another model was proposed by Robert Gagne in 1984 that expanded Bloom's categories to include attitudes and cognitive skills. Gagne's model for categorizing learning outcomes contained five

different outcomes; intellectual skills, verbal information, cognitive strategies, motor skills, and attitudes (Gagne, 1984). The foundations of Bloom and Gagne's models were later simplified into three general categories; Cognitive outcomes, Skill-based outcomes, and Affective outcomes (Kraiger, Ford, & Salas, 1993). The Kraiger, Ford, and Salas model (1993) was the most relevant model for this study in large part to the ease of categorizing the evaluation techniques of DE coursework into the three categories. The Kraiger, Ford, and Salas model is depicted in Figure 3.

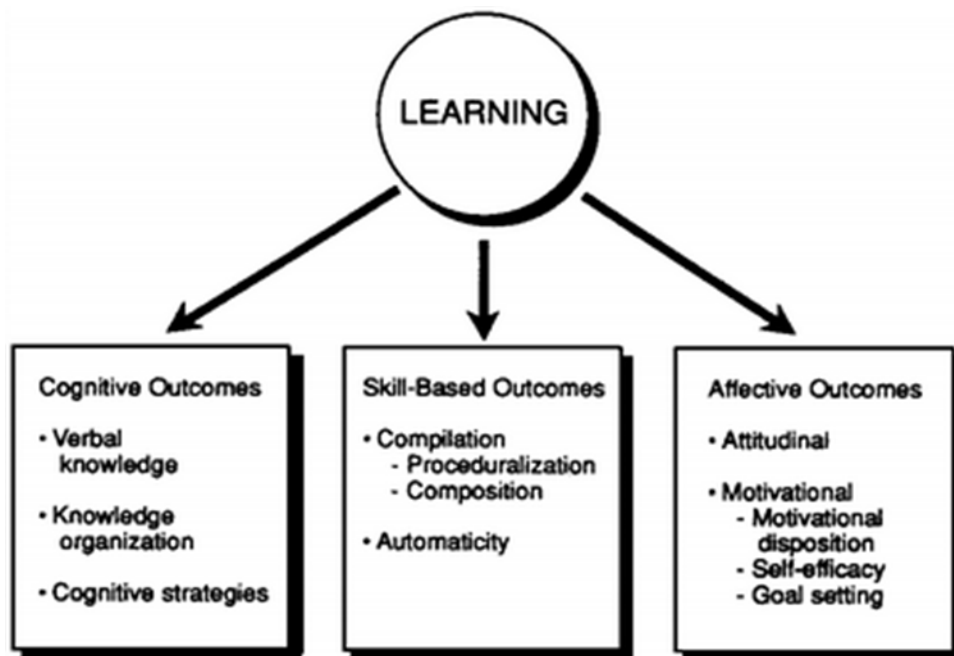


Figure 3. Catalog of Learning Outcomes. Source: Kraiger, Ford, & Salas (1993)

The cognitive outcomes evaluated both the static and dynamic processes that students used to acquire knowledge, organize information, and apply the knowledge. A subcategory of cognitive outcomes is verbal knowledge or knowledge that is declarative (what information is known), procedural (how to perform a task), or strategic (knowing how to structure information to form a plan) (Kraiger et al., 1993). Common assessment measures for evaluating verbal knowledge are tests with multiple-choice, true-false, or short answer questions. Knowledge organization can be more complex and will require

the student to organize or structure certain knowledge. Assessments for knowledge organization involve the creation of mental models that require the student to organize different types of information. The final subcategory of cognitive outcomes is cognitive strategies. Cognitive strategies are the process of developing metacognition skills that enable the student to learn new information and apply the knowledge successfully (Kraiger et al., 1993). There are a number of strategies that assess cognitive strategies including carefully planned interviews with subject matter experts or comparing student generated self-assessments with verification processes.

The next domain of individual learning outcomes is the skill-based outcomes. The goal of skill based outcomes is to create technical and motor skills (Kraiger et al., 1993). The military refers to this type of outcome as practical application and may involve some type of simulation at the conclusion of the training or actually performing the task that was focus of the training. Compilation is a subcategory of skill-based outcomes and can include both proceduralization (building upon pre-existing skills and applying them to other situations) and composition (grouping different skills together to accomplish new tasks). Assessment techniques for the compilation outcomes are practical applications that involve a simulated or an actual observation of task proficiency. If the student has become proficient enough at the task that he/she can perform it subconsciously, then the subcategory of automaticity would have been obtained. A common method to measure automaticity is the observation of the desired task being performed simultaneously with a secondary task (Kraiger et al., 1993).

The final individual learning outcome domain was the affective outcomes. Affective outcomes include all other outcomes that did not fall into the category of cognitive or skill based outcomes. This domain included the attitudes, motivations, and personal ambitions of the student that are related to the desired learning outcomes of the organization (Kraiger et al., 1993). The attitudinal subcategory referred to the possible changes in the attitudes of the student that was aligned with the organization. For the military, this could be the student's acknowledgement that suicide or sexual assault was a serious problem that needed to be addressed. A common measure for attitudinal outcomes is self-assessments that are given to a student before the training began and

again after the training concluded in order to measure relevant changes. The last subcategory of affective outcomes was motivational outcomes. This learning outcome could be useful if changing the motivation of the student was the desired outcome of an educational or training program (Kraiger et al., 1993). The motivational disposition referred to the desire of the student to increase the proficiency of a skill (mastery) or to perform better at a skill and gain positive feedback from others (performance). Self-efficacy was the individual students' attitude toward their ability to perform a task. This learning outcome can be important for organizations to evaluate because self-efficacy is a good indicator of the students' ability to perform a task in difficult situations or to predict knowledge retention (Kraiger et al., 1993). Goal setting is the final subcategory of the affective outcomes. The research suggested that students who create quality goals are more likely to apply the learned skills of the training in the future. Assessments for the affective outcomes are traditionally carefully crafted questionnaires, interviews, evaluations, and practical applications (Kraiger et al., 1993).

A four level model designed by Donald Kirkpatrick in 1959 became the standard for evaluating the effectiveness of training programs at both the individual and program level (Galloway, 2005). The model consisted of four levels of standards that an organization can measure; Reaction, Learning, Behavior, and Results. Reaction was focused on the feelings of the student with the purpose of determining if the training was enjoyable. The learning portion contained a standard that attempted to determine if the desired information was absorbed by the students. The behavior portion involved a set of benchmarks that focused on the students' behavior once the employee returned to regular duties in order to see if the training had produced the desired behavior. Finally, the result criterion was a comprehensive evaluation that determined if the overall training program produced the intended results or improved the organization (Kirkpatrick, 1979). Organizations have the option to employ one or all of the metrics in order to determine the effectiveness of the training program, however, only using one or two measures may not produce accurate results (Galloway, 2005).

3. Assessments

The most traditional approach for measuring learning outcomes is in the form of a student assessment and the assignment of a course grade or an end-of-course survey. The grading system does not necessarily provide an accurate assessment of the learning outcomes unless it can be ascertained that the assessment process was highly correlated with the learning outcomes. Additionally, the end-of-course surveys are not a complete metric for determining if learning outcomes were achieved because they are normally very subjective (Kearsley, 2013, p. 429). Although assessments, grades, and surveys are not individually the most effective method to measure learning outcomes, the research suggested that these measures should be captured along with other forms of quantitative and qualitative data. By collecting and intelligently analyzing this information, organizations can gain an understanding of the positive and negative aspects of the DE program and make informed decisions on how to improve (Kearsley, 2013, p. 434).

The primary MOE for most DE programs at the individual level is in the form of assessments. An assessment is defined as measuring the learning advances of the student in order to determine the level of mastery of the subject material. Along with measuring mastery at an individual level, assessments can also be used to evaluate the overall effectiveness of the program itself; however, this depends on the type of assessments administered. Assessments can be either formative or summative in nature. Formative assessments provide critical feedback information to the student or the instructor while the course is progressing. Additionally, formative assessments help the instructor to correct misunderstandings of the information that was presented as well as inform the student on which concepts are of particular importance. Summative assessments are more administrative and commonly involve the assignment of a grade, certification, completion certificate, or another type of completion reward for the student. Summative assessment information can be an important source for data analytics in order to determine course effectiveness as well as macro trends in student performance (Simonson et al., 2009, p. 267).

Assessments, both formative and summative, are further divided into the categories of objective or subjective. Objective assessments are commonly used to

determine if the specific knowledge presented in the course can be recalled by the student. Common forms of objective assessments are multiple-choice questions, true-false questions, or short answer questions in the form of an online quiz or exam. A benefit of objective tests is that large populations can be graded by software and the instructor can easily determine what concepts were understood and the concepts that were difficult for students to understand (Simonson et al., 2009, p. 271). The disadvantage of objective assessments is that they do not demonstrate whether recalled knowledge could be transferred into practical applications. Additionally, objective assessments cannot measure if the students' understanding of the course material was in fact comprehensive (Alliger, Tannenbaum, Bennett, Traver, & Shotland, 1997).

The second form of assessment is a subjective assessment. A subjective assessment encourages more student reflection and creativity and can be delivered in the form of an essay or term paper. Subjective assessments provide a more comprehensive assessment of the students' understanding of the material. A disadvantage of subjective assessments can be the grading process in that it cannot be automated and must be completed at an individual level. The individual attention from the instructor may require a much greater time commitment than objective assessment grading (Simonson et al., 2009, p. 273). Additionally, the grading criterion for essays and term papers are subjective and the information collected may be problematic for data analytics that measure program effectiveness (Simonson et al., 2009, p. 281).

4. Completion Rates

To determine the success of an educational institution or distance education program on a macro scale, completion rates or graduation rates have been a traditional metric. The term completion rate is generally used interchangeably with graduation rates; however, completion rates can also apply to individual courses in addition to educational programs. A graduation rate is only applied to the academic program or institution as a whole. For the current research, completion rates will be applied for individual DE courses and not the entire DE program.

The graduation/completion rate metric was determined to be important enough as a measure of institutional success that the federal government in the Student Right to Know Act of 1990. In the law the metric was referred to as a graduation rate and mandated that all academic institutions that receive Title IV funding for financial aid must publish graduation rates annually. The mandated reporting was intended to provide a portrait of the institutions' success to regulators as well as give valuable information for prospective students. The law defined graduation rate as the percentage of first year students to an academic institution who completed the educational program within 150 %of the normal time required. The definition in the law also included students who transferred to another qualifying institution and completed the program within the time parameters (Student Right to Know Act of 1990). For policy makers, completion rates or graduation rates are an important metric to track the success of educational institutions that receive federal funding. For educational institutions, the metric of graduation rates has become a critical statistic because of the potential financial implications. The graduation rate can also be beneficial for students that are searching for an educational institution because this metric may reveal if the institution is achieving the core mission of providing an education to students (Gold & Albert, 2006).

Completion rates are a useful metric because it can provide information on the educational institutions' attrition rates and the persistence of the students attending the institution from a macro perspective (Park, Boman, Care, Edwards, & Perry, 2009). Persistence is the amount of time that an adult student participates in a particular class or program. Attrition is the decision by an adult student to quit a class or program prior to completion (Rovai, 2003). Attrition and persistence are negatively correlated so a change in one will change the other in the opposite direction. The difference between the two variables is the amount of time needed to measure them in order to derive meaningful data (Park et al., 2009). For example, the persistence rate of a student may not be significant after one class, but may be useful for an entire students' academic career. Alternately the attrition rate of a course or program could be useful in both a short or long time period.

By attaching funding to the completion rates of educational institutions, Congress in the Student Right to Know Act of 1990 made the assumption that student persistence is positive and student attrition is negative (Park et al., 2009). An unintended consequence of that assumption is that traditional face-to-face institutions may be more selective in their admissions process in order to ensure that only the most qualified students with the greatest chances of persistence are admitted. This assumption would also give a competitive edge to selective institutions over more open programs. Another problem of the assumption that persistence is good and attrition is bad was in its application to DE. DE is an attractive option for non-traditional students with vastly different academic backgrounds (Park et al., 2009). Large proportions of DE students are enrolled in classes part-time and have more non-academic responsibilities that compete with their time compared to traditional face-to-face students (Howell, Laws, & Lindsay, 2004). Therefore, comparing the persistence or attrition rates from a DE program to a traditional face-to-face program would not be a fair comparison.

Capturing the persistence and attrition rates of an institution does have merits and can provide a program level perspective of the health of an educational program; however, the conclusions drawn from these measures do have limitations. For example, a course with a very high persistence rate will tell you that students tend to stay in the course or program for longer periods of time compared to similar courses; however, this metric does not provide any information about the quality of the course. Alternately, a course or program with a high attrition rate will tell you that students tended to depart from a course at a higher rate than a comparable course; however, the statistic does not tell you whether the departure was due to personal, financial, academic, or course quality reasons (Rovai, 2003). When the attrition and persistence rates are combined to form the completion rates of an academic institution this metric can become even more difficult to interpret. A high completion rate does not tell you anything about the quality of the course, whether the learning outcomes were achieved, or the personal motivations of the students. Therefore, it is especially difficult for decision makers to take steps to improve completion rates without a better understanding of what determined a student to persist or dropout in the first place (Howell et al., 2004).

As stated previously, MarineNet has used the number of course completions as a MOE for the distance education program; however, this is a cumulative number that is not weighted against the number of enrollees or the course type. The operational definition of completion rate for this project will be the percentage of students who successfully completed the course in the prescribed amount of time divided by the total number of students who attempted the course. For the MarineNet courses without an EOC exam, a successful completion will be defined as a student who successfully reviewed the materials of the course and met all the course learning objectives. For the MarineNet courses with an exam, a successful completion will be defined as a student who successfully completed the course materials and received a passing grade of 80% or higher on the EOC exam.

5. Conclusion

The literature is very expansive on the history of DE its benefits and limitations when compared to traditional face-to-face instructions. There was also an overwhelming level of support for using assessment data to measure learning outcomes for individual students and for evaluating the academic program; however, the literature was also explicit in pointing out the benefits and limitations of using completion rates as a MOE even though the federal government has mandated its use for educational institutions. Additionally, the theory of motivation in the social sciences was well supported by the research in the determination of student learner outcomes. In the civilian sector, there are numerous studies that attribute student motivation as fundamental for the achievement of learning outcomes for both large organizations and universities. In the military sector and in the Marine Corps specifically, there was very limited research on the role that motivation has played in DE programs. This study will contribute to the field by facilitating a deeper understanding of the effect that motivation has on the military online learner at the macro level. A better understanding will enable leaders to make informed decisions on future course design improvements at the program level and assist in the creation of more effective MOEs for MarineNet courseware.

III. METHODOLOGY

A. DATA

The administrative dataset was provided by the College of Distance Education and Training (CDET) which is subordinate to the Marine Corps Education Command (EDCOM) and the Marine Corps University (MCU). The dataset included all distance education (DE) courses offered during a one year time period Academic Year (AY) 2015. The AY 2015 for this annual data snapshot began on January 31, 2015 and concluded on January 31, 2016. CDET also provided a lifetime dataset that contained all of the course information from the entire lifetime of the MarineNet data collection program. The earliest date in the lifetime dataset was November 19, 2000 and the most recent date in the lifetime dataset was January 27, 2016.

The information contained in the dataset included all of the courses offered during the time period including a series of courses offered by a private company called Skillsoft. The Skillsoft courses were limited to four online course collections (Business, Desktop, Legal Compliance, and Information Technology). Course information provided in the dataset included the course code or identifier, course description, the target Military Occupational Specialty (MOS) of the course, and the broad subject category of the course (military training, language and culture, civilian training, etc.). No Personal Identifiable Information (PII) was included in the dataset

B. MEASURE OF CENTRAL TENDENCY

With such a large dataset containing the entire population of MarineNet users, the sample size for this project was the entire population, or N . In order to make educated interpretations of the dataset, the traditional measures of central tendency are the mean, median, and the mode. After conducting an analysis of the available data, it was determined that the mean was the only relevant measure for this project. The arithmetical mean, or mean for short, is the mathematical center of distribution for a range of values. The mean is denoted by the symbol μ and pronounced mu (Keppel & Wickens, 2004, p. 17). The equation for the mean is provided in equation 1.

$$\mu = \frac{\sum_{i=1}^N X_i}{N} \quad (1)$$

There was a wide distribution of total enrollments in each course due to the different motivations needed to complete them. Some courses had millions of enrollments over the lifetime while others have a few. It would be a mistake to analyze the data with only the statistical mean because this strategy would rank each course equally. To remedy this problem, the weighted mean was calculated. The weighted mean is a calculation of the mean based on the weight or proportion of the value compared to all of the other values. The weighted mean will assign different weights or ω to a value based on an assigned criteria. For this project, the assigned criterion was the total number of enrollments in a course. Therefore, a course with 10,000 enrollments was assigned a higher ω than a course with only a 100 enrollments. With more representative weights or ω for each course type or Project Code (PC), the completion rates that are calculated will be more informative. The equations for weighted mean are depicted in equations 2 and 3.

$$\bar{X}_W = \frac{\sum_{i=1}^n \omega_i X_i}{\sum_{i=1}^n \omega_i} \quad (2)$$

$$\bar{X}_W = \frac{\omega_1 X_1, \omega_2 X_2 \dots, \omega_n X_n}{\omega_1 + \omega_2 + \dots \omega_n} \quad (3)$$

The standard deviation, or σ , is a descriptive measure of the amount of variability in the data groups. Specifically the σ measures the average distance from the mean in a dataset. In order to account for the unequal course enrollments, the σ was also weighted as well using the notation σ_w . The normal and weighted standard deviation was calculated for comparison and to measure the variability in each course type or PC. The

equations for the normal standard deviation and the weighted standard deviation are depicted in equations 4 and 5 respectively (National Institute of Standards and Technology, 1996).

$$\sigma = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N}} \quad (4)$$

$$\sigma = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x}_w)^2}{\frac{N \sum_{i=1}^N w_i}{N}}} \quad (5)$$

The completion rates for the PC categories were the basis for the means and standard deviations. As mentioned earlier, MarineNet currently employs the completion rate data as the primary MOE for program success. In an attempt to provide more specificity to this metric, the same measure of completion rates will be used in a new way. By categorizing the courses by motivation type and weighing the courses by enrollment numbers, this strategy will provide insight into whether the MarineNet DE course data follow the trends identified in the literature with regard to motivation and human learning. Additionally, the PC categorization will also enable a detailed analysis of the End of Course (EOC) exam scores to determine if this metric also follow the patterns outlined in the literature review.

C. DESCRIPTIVE STATISTICS

For every course, the dataset included the quantity of Marines or civilians that participated in the DE courseware during the time period. To be included in the dataset for a particular course, a student must have enrolled in a course, been dis-enrolled from a course either voluntarily or involuntarily due to time expiration, failed to successfully

complete a course, or successfully completing a course by completing the course materials. The Total Enrollments (TE) for each course was the cumulative number of enrollees during the time period captured by the dataset. A Course Completion (CC) or the act of successfully completing a course was achieved by the completion of all course materials, completion and the receipt of a passing score on an EOC exam, or the completion of all course materials and the completion of an EOC survey (MarineNet, 2012a). The default passing score on an EOC exam was 80% unless the individual course sponsor intentionally changed this standard. Categories for non-completions included Course Failure (CF) if a student did not obtain a passing score on an EOC exam, Self-Disenrollment (SD) if a student voluntarily dis-enrolled in the course without completion, or Expiration Dis-Enrollment (ED) if a student was unable to complete the course in the designated amount of time. The dataset did not include a Total Non-completion (TN) category for each course so this was calculated by taking the sum of the CF, SD, and ED or $TN = CF + SD + ED$. Completion rates (CR) were determined by dividing the Course completions by the total number of enrollments or $CR = CC/TE$. The Attrition Rate (AR) was determined by dividing the total non-completions by the total number of enrollments or $AR = TN/TE$.

As stated earlier, the dataset included total enrollments for each course; however, the methodology for how this number was calculated by MarineNet was unknown. Intuitively, the number of participants who enrolled in the course in AY 2015 should equal the sum of all of the dis-enrollments, failures, passes, and current active users of the course. This was not the case with the total enrollments value given in the dataset. A potential cause of the inaccuracy may be the total non-completions given in the dataset for AY 2015 included participants who enrolled in the course during a previous calendar year. An attempt was made to verify this assumption with the lifetime data; however, the total enrollments given in the dataset still did not equal the sum of all of the relevant variables. A request for information was submitted to MarineNet regarding the methodology of the total enrollments value; however, by the time of this publication there has not been a response. In order to move forward with the project an alternate variable of Total Enrollments (TE) was created that was calculated by the sum of the dis-

enrollments (CD+ED), course failures (CF), and course completions (CC) or $TE = CD+ED+CF+CC$. The participants that were represented as active or currently working on the course were left out of all of the equations to minimize confusion. Table 2 depicts all of the variables and the naming convention.

Table 2. Equation Naming Convention

CF	Course Failure
SD	Self Dis-Enrollment
ED	Expiration Dis-Enrollment
TN	Total Non-Completions determined by $TN = CF+SD+ED$
CC	Course Completion
TE	Total Enrollments determined by $TN + CC$
CR	Completion Rate determined by $CR = CC/TE$
AR	Attrition Rate determined by $AR = TN/TE$

The dataset contained 2,186 different DE courses offered by MarineNet in AY 2015. Of the 2,186 courses, 271 courses were removed because they were classified as a curriculum instead of an individual course. A curriculum is a group of MarineNet courses that supplement other courses and are packaged together to build upon a larger learning objective (MarineNet, 2012b). Since the individual courses of the curriculum were part of the dataset, including the curriculums would have been redundant. Another 57 courses were removed from the dataset because these courses did not contain any disenrollment or completion data from AY 2015. In some cases, the only data available for these courses were a few enrollments, if any, but no additional data. The absence of data may suggest that either the courses had zero enrollments during AY 2015 or the participants enrolled and did not complete the course during the time period of the dataset. After removing the 328 courses and curriculum codes, the final dataset contained information on 1,858 courses. The exact same procedure was applied to the lifetime dataset to ensure that both datasets contained the same course information.

For the lifetime dataset, the majority of the course data were collected after 2009 which is depicted in Figure 4. Figure 4 is a bar chart that depicts the year and quantity of courses that received the first enrollment by a student indicating when they were first offered. Prior to 2009, there were relatively few courses offered to users as DE had not gained in popularity. Since the lifetime data is a cumulative measure, the lifetime dataset was used in this project for the purposes of normalization to ensure the AY 2015 data is reflective of the overall dataset. The lifetime dataset were also used to correct the problem of prior year course information diluting the AY 2015 data. Figure 5 is a bar chart that depicts the total courses by PC in the lifetime dataset. Table 3 is a reminder of the PCs and the associated motivation types.

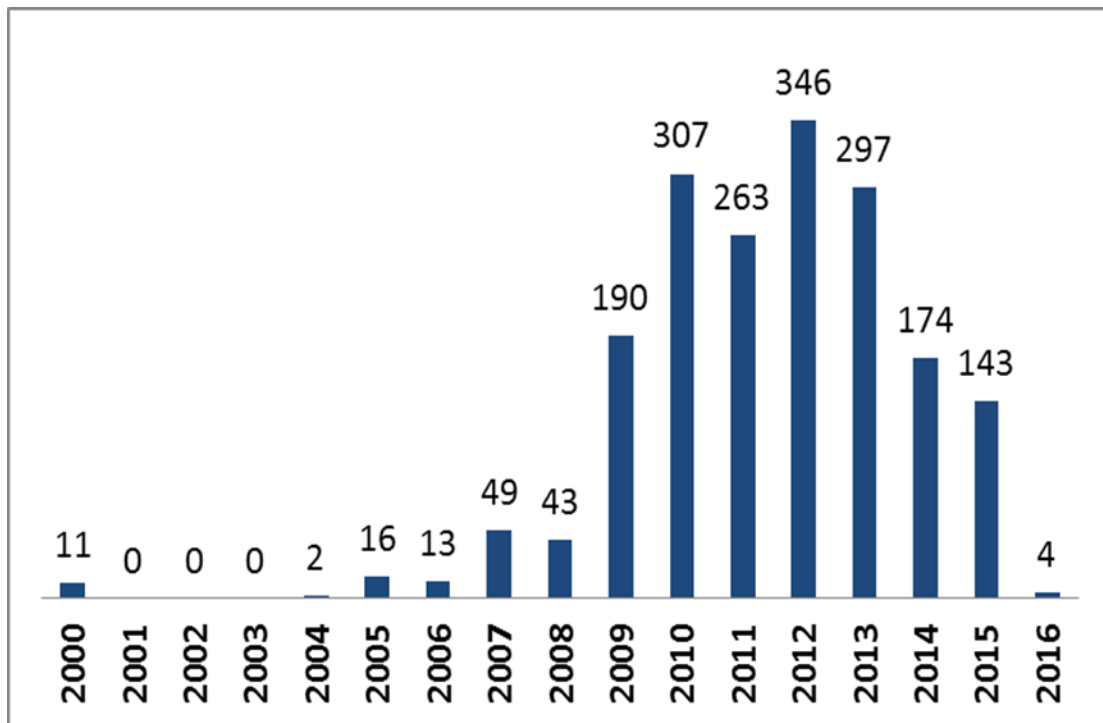


Figure 4. First Enrollment in Course by Year

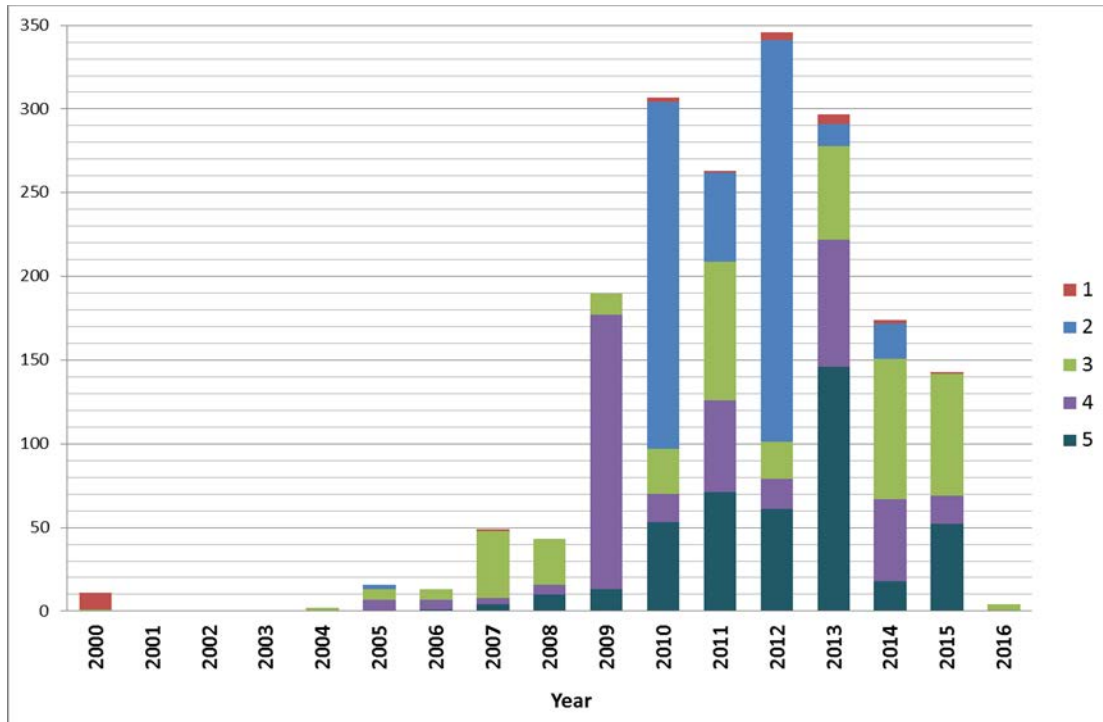


Figure 5. First Enrollment in Course by Year and Project Code

Table 3. Project Code and Motivation Types

Project Code	Description	Motivation Type
1	Required training	External Regulation (highest extrinsic)
2	May be required or encouraged for promotion and/or career advancement	Introjected Regulation (moderate to high extrinsic)
3	May be required or encouraged for MOS Specialization	Identification (moderate extrinsic)
4	Not required, but may be encouraged for career competitiveness	Integrated Regulation (low to moderate extrinsic)
5	Not required, professional development	(Lowest extrinsic to low intrinsic)

The majority of MarineNet users are enlisted personnel with the ranks of Lance Corporal (E-3), Corporal (E-4), and Sergeant (E-5). The tremendous imbalance between the number of enlisted and officer users is expected since the enlisted population is much greater than the officer population by a 10:1 margin. The three most represented ranks of E-3, E-4, and E-5 are also expected because these ranks can be achieved within the first enlistment. Additionally, the time in grade requirements for E-3, E-4, and E-5 are longer than E-2 and E-1 which result in a buildup. Figure 6 is a graphical depiction of the quantity of MarineNet course participants separated by pay grade for AY 2015; however, this is not cumulative of all courses. The dataset only provided the three most active ranks for each course and the quantity. The total number of participants by paygrade was not included in the dataset. Therefore, the fourth and fifth most active ranks are not represented in Figure 6 even though all of the other data pertaining to course completion rates did include all users. Figure 7 is a depiction of the same information for the lifetime dataset.

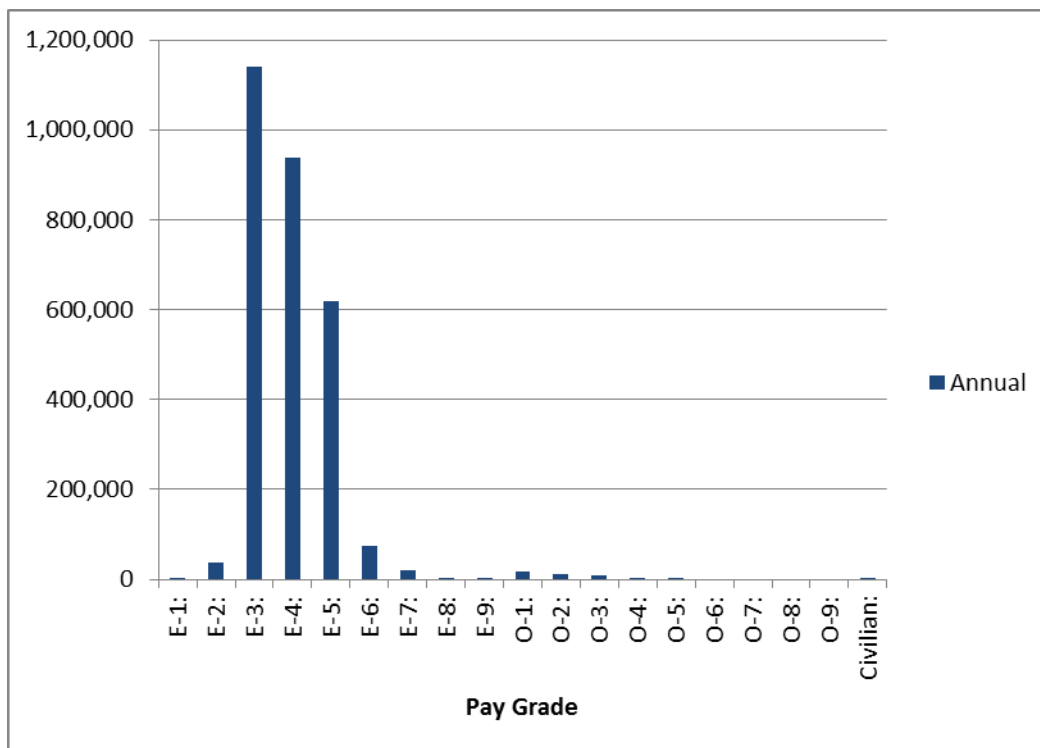


Figure 6. 2015 Course Participation in MarineNet Courses by Rank (Annual)

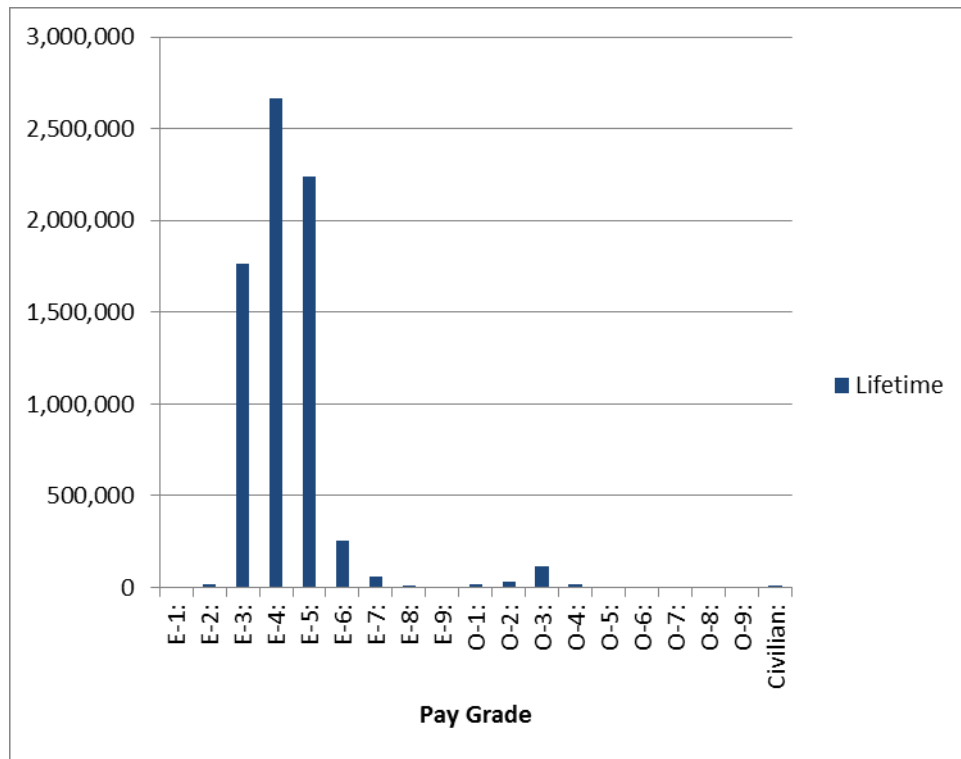


Figure 7. 2000–2016 Course Participation in MarineNet Courses by Rank (Lifetime)

D. DATA CATEGORIZATION

In order to analyze the data for each type of motivation, the courses were categorized into PCs based on the presumed motivation required to participate in the course. MarineNet provided broad categories for each course that greatly assisted in the categorization process. The broad categories and subcategories assigned by MarineNet were provided in the course catalog and are depicted in the following bullet list (MarineNet, 2016).

- Civilian Workforce Training:
 - Subcategories: Annual training, Civilian Community of Interest (COI) technical training, Security and Law enforcement training
- Family and Personal:
 - Subcategories: Family and personal readiness, Health and Wellness, Life Skills, Personal development

- Language and Culture:
 - Subcategories: Language, Regional Cultural and Language Familiarization (RCLF)
- Military Training:
 - Subcategories: Annual Training, Basic Training Record (BTR), Formal schools, Functional specialty training, Joint and inter-service, Military Occupational Specialty (MOS) roadmap, MOS training, Pre-deployment training program
- Professional Development:
 - Subcategories: Certification preparation training, Lejeune Leadership Institute (LLI) development, Microsoft application training, other
- Professional Military Education (PME):
 - Subcategories: Officer, Enlisted

The process of categorizing the courses by motivation type included a general review of each course description to evaluate the overall learning outcomes and the suggested audience for the course. For example, if the course was described as highly technical with a specific MOS as the targeted audience, then the course was categorized as an Identification course or PC 3. If the course description was part of the PME curriculum with a specific rank as the target audience then the course was categorized as Introjected regulation or PC 2. The MarineNet organic course categories were also very important in this process because the majority of the required training, PME, and MOS specialization courses were already categorized. The careful analysis of each course was crucial for this research in order to differentiate the courses into motivational categories since many of the courses were listed under multiple MarineNet categories and sub-categories. Following the analysis, the courses were given a PC and divided into five categories of motivation listed in Table 4.

Table 4. Project Codes for MarineNet Courses

Project Code	Description	Motivation Type	MarineNet Subcategory
1	Required training that must be conducted to satisfy an annual, job, or licensing requirement	External Regulation (highly extrinsic)	Annual Training, BTR, Functional specialty training (tactical vehicle licensing)
2	May be required or encouraged for promotion and/or career advancement	Introjected Regulation (moderate to high extrinsic)	PME, RCLF
3	May be required or encouraged for MOS Specialization and/or proficiency training	Identification (moderate extrinsic)	MOS roadmap, MOS training, Civilian COI, Security and law enforcement
4	Not required, but may be encouraged for career competitiveness	Integrated Regulation (low to moderate extrinsic)	Functional training, language (non-RCLF)
5	Not required, professional development	(Low extrinsic to low intrinsic)	Certifications, LLI, family readiness, life skills, personal development

PC 1 includes all courses that fell into the external regulation or highly extrinsic category since the individual did not have a choice in the decision to complete it. The PC1 category included all courses that were mandated by formal directives from the DOD, Department of the Navy (DON), or Marine Corps (DOD, 2013; DOD, 2012; DOD, 2005; DOD, 2014; Health Promotion, 2003; DON, 2007; DON, 2010). In addition to the MarineNet categorization, the Marine Corps Bulletin (MCBUL) 1500 for 2015 listed all of the required MarineNet courses that for the fiscal and calendar year (USMC, 2015). Other courses are required for Marines in specific MOS or geographic locations. Furthermore, Marines who are training to become tactical vehicle operators are required to complete certain courses as part of the licensing program. For the civilian annual training courses, the Headquarters Marine Corps Human Resources and Organizational Management Branch provided a list of required courses for civilian employees.

PC 2 includes all courses that fell into the introjected regulation or moderate to high extrinsic category. Students that enrolled in courses in PC 2 were seeking the external reward of career advancement or the threat of being passed over by a promotion board. The PC 2 category included all courses that were specified by the MarineNet subcategory of PME or RCLF. According to the most recent Marine Corps Order (MCO 1553.4B) on PME (USMC, 2008), officer PME is not technically required; however, the order does specify that completing it will make the officer more competitive for promotion. Within the officer ranks, there is a clear understanding that completion of PME for the designated grade is required for advancement. For enlisted PME, the Marine Corps Administrative Message (MARADMIN) 521/14 (2014) explicitly stated that PME is required for promotion (USMC, 2014). For the RCLF courses, the Marine Corps order does not specify that completion of RCLF courses is mandatory for promotion (USMC, 2008); however, there have been several MARADMINs (619/12, 196/13, 231/14) that specified the requirement of RCLF courses in order for officer and certain enlisted Marines to be designated PME complete for future promotion boards. The Marine Corps University addressed this contradiction in directives and stated that the updated MCO for PME that was currently being drafted will most likely designate RCLF courses as required PME (Marine Corps University, 2016). Even with the clarification from the Marine Corps University, the RCLF courses were included in PC 2 due to the confusion caused by the conflicting guidance.

PC 3 includes all courses that fell into the identification or moderate extrinsic category. Courses in the PC 3 category are highly encouraged for MOS proficiency, but are not explicitly mandatory. The courses in the PC 3 category are primarily focused on job specialization for both Marines and civilians. MarineNet offers a large selection of courses that are only designed for specific MOSs or civilian jobs. The courses are designed to maintain and build proficiency in technical or non-technical MOSs or civilian equivalents. The courses range in complexity and are intended to assist a student progress in proficiency throughout their career. Some of the courses may be required at the individual unit level or as part of a formal school curriculum. All specialties within the Marine Corps have designated MOS roadmaps that provide a resource for skill

development through an individual's career. Many of the stops on the MOS roadmap have been converted into DE courses.

The categorization of PC 4 was more subjective and includes courses that qualified for the integrated regulation category. Following the analysis of the course catalog, courses were selected for PC 4 that were not required for promotion; however, could make the Marine or civilian more competitive on a promotion board. The courses in this category apply to both specific and broad audiences of Marines and civilians. The courses that are for the specific MOS or civilians include courses that are in a related field or potentially offer more advanced information than would be normally required in the MOS roadmaps. Since the courses in PC 4 are not required, the completion of these courses could potentially demonstrate initiative and a desire to better oneself for future promotion boards. The courses that are for a broad audience like the non-RCLF language courses require significant student effort to complete and may signify dedication to the Marine Corps and further competitiveness.

The categorization of the final PC 5 was also subjective and includes courses that could be categorized as low extrinsic to low intrinsic motivation. The criteria for the PC 5 category included courses that a Marine or civilian may complete to better themselves on a personal or professional level. The courses in PC 5 did not relate specifically to PME curriculum, improving personal promotion competitiveness, or furthering MOS proficiency. The selection of courses in PC 5 was assisted by the categorization provided by the MarineNet category of Professional Development that included many courses that satisfied the requirements of PC 5. Other courses that met the requirements for PC 5 included several of the business and software related courses as well as courses that focused on family readiness.

Although the MarineNet course taxonomy was helpful in categorizing the courses by motivation type, there were remaining subjective determinations that were made. The determinations were based on the interpretation of Marine Corps orders, administrative messages, directives, and the anecdotal experience of the author as a Marine Corps officer. Following the categorization of the courses into the five PCs, the courses were further divided into groups of courses that offered an EOC quiz and courses that did not

require an EOC quiz. The PCs and quantity of courses for this study are provided in Table 5 along with the graphical display in Figure 8.

Table 5. Course Quantity by Project Code

Project Code	Courses w/quiz	Courses w/o quiz	Total
1	15	14	29
2	108	429	537
3	96	348	444
4	60	359	419
5	9	420	429
Total	288	1570	1858

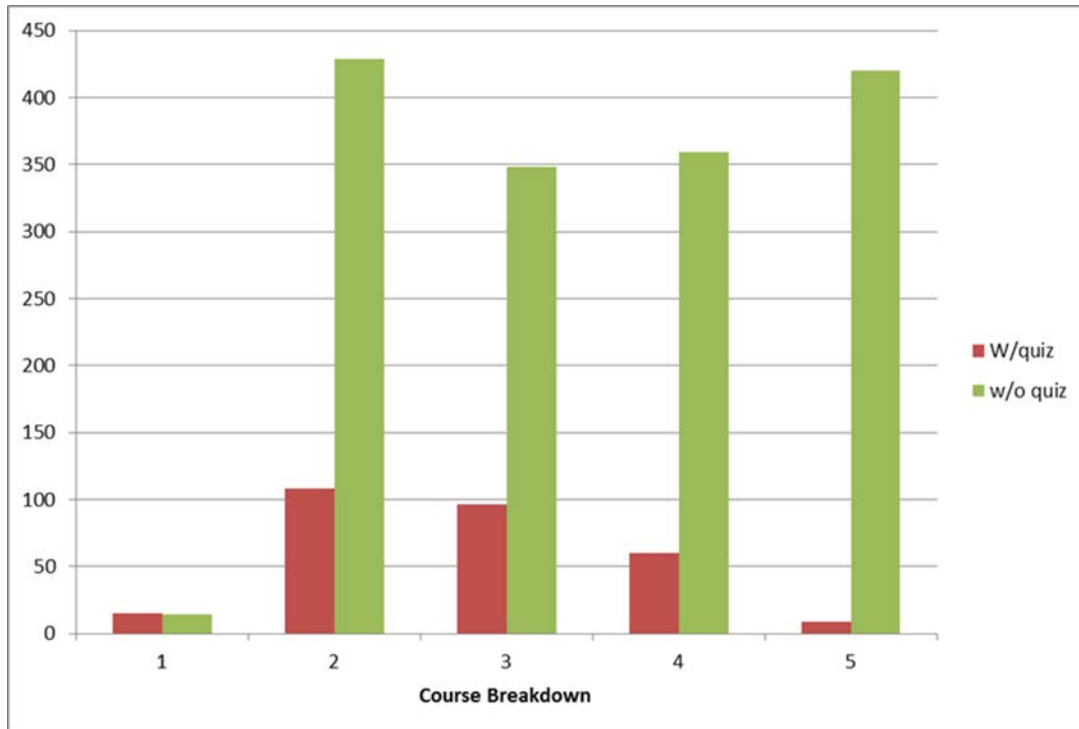


Figure 8. Course Quantity by Project Code

E. ASSUMPTIONS

A major assumption made in the classification of the courses was that all Marines and civilians experienced the same motivation for participating in a specific course. Without detailed survey data there was no definitive way to determine why the individuals decided to participate in the course. Another assumption was that every individual who took a course fit into only one category of motivation. For example, it is possible that a student may take a course with the motivation to increase his/her proficiency in a skill while also hoping the course could demonstrate dedication to a promotion board and thereby increasing his/her competitiveness for promotion. The research indicated that people are not limited to only one category of motivation for any single event. In reality, motivation is on a continuum that can be changed at any time due to situational factors (Ryan & Deci, 2000a). Similarly, another assumption was made that each course only fit into one category of motivation. In reality, a course may fit into any category depending on the current circumstances of the student and the motivation type may evolve over time. Finally, it was assumed that all of the data in the annual dataset reflected actions that occurred in AY 2015. The dataset undoubtedly contained dis-enrollments, failures, and course completions that are from previous year enrollments. This was a limitation of the study because the results will not truly reflect the AY 2015 data. As an attempt to correct this limitation and strengthen the results, all calculations were replicated on the lifetime dataset to provide a check on the annual data.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. DATA

This research is dependent on the data received from the MarineNet database. The dataset contained a wealth of information and only a fraction of it has been explored for this project. The type of data in the dataset was a limiting factor for running advanced statistical measures due to the inability to derive specific information on a particular data point of interest. The dataset used in this research was a decision makers' program level view that combined millions of data points into single numbers that could be used for broad understanding of the DE program. Therefore, the analysis performed in this thesis was designed for a macro scale and cannot be accurately applied to individual data points. This section will focus on the results of the data analysis and how well the dataset correlates with the hypothesis. The correlation will be based on the arguments made in the literature review with respect to the type of motivation that was applicable for each course type in order to determine if the MarineNet dataset was aligned with the literature. This process will include the demonstration of the results through data tables in an attempt to accurately display the data in a logical format.

The correlation function, *correl* in Microsoft Excel was used to calculate the correlation coefficient of two arrays of data. The first array was the Project Codes (PCs) (1–5) and the second array was data points corresponding to the PCs to determine if there was a correlation. In Excel, the correlation function produces a value that is between -1 and +1. A high positive correlation would suggest that there was a strong positive relationship between the two arrays while a high negative correlation would suggest a strong negative relationship. The equation for the correlation coefficient in Excel is provided in equation 6.

$$Correl(X,Y) = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}} \quad (6)$$

A. H1/H4: END OF COURSE (EOC) EXAM SCORE DATA

The original dataset contained the total number of students who attempted the exam for each course as well as the total number of students who attempted the exam a second or third time. If a student failed to achieve a passing score on the first attempt of an exam, the student was given the opportunity to retake the exam for a second or third time. After a third failure, the student, by default, would be dis-enrolled from the course and may be eligible for re-enrollment which would create a new data point. In addition to the quantity of students, the dataset also contained the unweighted mean exam score for each course over the prescribed time period of the dataset.

The data in Table 6 depict the mean and weighted mean exam scores for each PC for the annual dataset. Table 7 depicts the same calculations for the lifetime dataset for comparison. The exam score means were calculated for each course and then separated by PC. In order to account for the variability in course enrollment numbers, the exam score means were also weighted by course enrollment numbers and denoted $\bar{X}_w$. The *trend* was then calculated by taking the average of the differences between the 1st and 2nd exam attempts and the 2nd and 3rd exam attempts in order to represent the average change in exam scores for each subsequent exam attempt. The *combined* row consisted of the cumulative normal and weighed exam score means for all PCs separated by each exam attempt.

As an example of how to read the table the correlations between the weighted exam scores and the PCs for the second exam attempt in both the annual and lifetime data are 0.85 and 0.63 respectively. The results indicated that courses with more extrinsic motivations had lower weighted exam mean scores on the second exam attempt while courses with intrinsic motivations had higher exam scores. Additionally, the trend from the first three exam attempts for courses with higher extrinsic motivations in PC 1 increased on average of 2.04 points while courses with intrinsic motivations in PC 5 decreased by 2.44 points on average. The results in Tables 6 and 7 focused exclusively on courses that offered an exam and therefore had exam scores. Therefore, the data in Tables 4 and 5 do not contain information for courses that did not offer an exam at the conclusion of the course.

Table 6. Annual Exam Score Means by Project Code

2015 Annual Courses with EOC Exam Score									
	Exam Attempt	1st		2nd		3rd		Trend	
		$\bar{X}$	$\bar{X}_w$	$\bar{X}$	$\bar{X}_w$	$\bar{X}$	$\bar{X}_w$	$\bar{X}$	$\bar{X}_w$
Project Code	1	78.000	73.832	78.200	73.781	74.133	77.860	-1.933	2.014
	2	78.435	85.112	74.889	79.162	67.667	79.641	-5.384	-2.735
	3	76.823	77.499	76.813	77.446	73.208	75.992	-1.807	-0.754
	4	78.034	81.618	77.797	80.454	75.254	80.404	-1.390	-0.607
	5	71.900	80.177	75.500	80.917	37.400	75.295	-17.250	-2.441
Combined		77.566	77.566	79.950	76.319	77.482	70.354	78.560	-3.606
Correlation		-0.733	-0.733	0.342	-0.276	0.852	-0.651	-0.311	-0.626

Table 7. Lifetime Exam Score Means by Project Code

Lifetime Courses with EOC Exam Score									
	Exam Attempt	1st		2nd		3rd		Trend	
		$\bar{X}$	$\bar{X}_w$	$\bar{X}$	$\bar{X}_w$	$\bar{X}$	$\bar{X}_w$	$\bar{X}$	$\bar{X}_w$
Project Code	1	78.438	77.698	79.063	76.664	79.938	76.146	0.750	-0.776
	2	76.468	84.644	75.294	80.258	68.550	80.310	-3.959	-2.167
	3	77.125	73.818	76.677	73.877	73.490	74.049	-1.818	0.115
	4	78.033	81.750	77.100	80.362	76.833	81.372	-0.600	-0.189
	5	77.111	84.382	76.222	85.053	63.222	81.813	-6.944	-1.284
Combined		77.138	77.138	79.629	76.362	77.824	72.362	77.693	-2.388
Correlation		-0.217	-0.217	0.357	-0.439	0.631	-0.598	0.568	-0.630

B. H2/H5: EOC EXAM FAILURE RATE DATA

Utilizing the same data described earlier on the total number of students who attempted each exam attempt; the failure rate was calculated for the first and second exam attempts only. When a student failed the exam on the first attempt, he/she would be given the opportunity to take the exam a second or third time. The failure rate was derived by the quotient between the numbers of students who took the subsequent exam over the number of students who took the previous exam. Therefore, the number of students who took the exam a second time in PC 1 (53,637) was divided by the number of students who took the exam for the first attempt (324,780). This calculation was repeated

between the third and second exam attempts to provide a failure rate for the second exam attempt. Since the majority of the exams only allowed three attempts, there was no way to determine the failure rate for the third exam attempt due to the limitations of the current dataset. The *Failure Rate* Δ was the difference between the first and second exam attempt failure rates. Tables 8 and 9 depict the student quantities and failure rates for the annual and lifetime datasets respectively.

There was a limitation with calculating the failure rate in this method because the students who failed to score a passing grade on an exam were not required to take the exam a second or third time. Due to the limitations of the current dataset, there was no way of determining how many students made the decision to quit or dis-enroll from the course instead of attempting the exam a second or third time. Additionally, the dataset provided by MarineNet did contain a failure quantity for each course; however, there was no way of determining whether the failure occurred on the first, second, third, or subsequent exam attempts. Thus, the methodology for the failure rate calculation in Tables 8 and 9 were conducted in order to provide a repeatable way to generate this information; however, the actual failure rates in reality are possibly higher than depicted. The data in Tables 8 and 9 do not contain information for courses that do not offer an exam at the conclusion of the course.

Table 8. Annual Mean Failure Rates

2015 Annual Quantity of students taking each exam and Mean Failure Rates						
Project Code	Total 1st Attempt Students	1st Attempt Failure Rate	Total 2nd Attempt Students	2nd Attempt Failure Rate	Total 3rd Attempt Students	Failure Rate Δ
1	324,780	0.165	53,637	0.159	8,535	0.006
2	323,103	0.203	65,484	0.215	14,089	-0.012
3	134,350	0.323	43,328	0.348	15,096	-0.026
4	103,002	0.356	36,648	0.173	6,347	0.183
5	25,677	0.201	5,173	0.101	523	0.100
Combined	647,883	0.184	119,121	0.190	22,624	-0.006
Correlation	-0.956	0.425	-0.875	-0.269	-0.630	0.681

Table 9. Lifetime Mean Failure Rates

Lifetime Courses with exam Attempts and Mean Failure Rates						
Project Code	Total 1st Attempt Students	1st Attempt Failure Rate	Total 2nd Attempt Students	2nd Attempt Failure Rate	Total 3rd Attempt Students	Failure Rate Δ
1	1,154,205	0.416	480,317	0.474	227,715	-0.058
2	685,591	0.221	151,690	0.255	38,754	-0.034
3	248,179	0.370	91,925	0.410	37,689	-0.040
4	331,478	0.337	111,811	0.325	36,366	0.012
5	31,172	0.173	5,390	0.107	577	0.066
Combined	2,450,625	0.343	841,133	0.406	341,101	-0.062
Correlation	-0.935	-0.571	-0.858	-0.737	-0.797	0.929

C. H3/H6: COMPLETION RATE DATA

As explained in the methodology section, the course completion rate was calculated by dividing the total number of students who completed each course by the total number of students who enrolled during the time period of the dataset. This calculation was applied to all courses in the dataset whether an exam was offered or not since the course completion was not dependent on a passing exam score. The completion rate means, or $\bar{X}$, were calculated for each course and then separated by PC. To account for the variability in enrollment numbers, the completion rates were also weighted by course enrollment numbers and denoted $\bar{X}_w$. The weighted standard deviation, or σ_w , was calculated for each PC in order to demonstrate the mean completion rate variability. In addition to being separated by PC, the courses were also separated by whether an EOC quiz was offered or not. The data in the *combined columns* provided the same calculations for all courses regardless of quiz offering. The *combined rows* provided the calculations for all courses by quiz offering regardless of PC. The *correlation row* provided the correlation between the PCs and the completion rate means, weighted means, and the weighted standard deviations. For example, the correlation in the annual dataset between the PCs and the course completion weighted means for courses that offered a quiz had a weak positive correlation of 0.118 while the courses without a quiz had a strong negative correlation of -0.900. The completion rate results for the 2015 and lifetime datasets is depicted in Tables 10 and 11 respectively.

Table 10. Annual Completion Rates by Quiz Type

2015 Annual Pass Rates (Normal and weighted means)									
Project Code	$\bar{X}$	$\bar{X}_w$	σ_w	$\bar{X}$	$\bar{X}_w$	σ_w	$\bar{X}$	$\bar{X}_w$	σ_w
	Quiz	Quiz	Quiz	No Quiz	No Quiz	No Quiz	Combined	Combined	Combined
1	0.495	0.678	0.238	0.904	0.941	0.022	0.692	0.877	0.165
2	0.536	0.539	0.053	0.816	0.802	0.152	0.759	0.568	0.109
3	0.524	0.582	0.287	0.400	0.858	0.232	0.427	0.758	0.286
4	0.416	0.503	0.274	0.483	0.300	0.275	0.473	0.403	0.293
5	0.677	0.731	0.054	0.240	0.284	0.360	0.249	0.339	0.368
Combined	0.509	0.508	0.046	0.494	0.716	0.253	0.497	0.720	0.287
Correlation	0.408	0.118	-0.198	-0.933	-0.901	0.984	-0.896	-0.858	0.890

Table 11. Lifetime Completion Rates by Quiz Type

Lifetime Pass Rates (Normal and weighted means)									
Project Code	$\bar{X}$	$\bar{X}_w$	σ_w	$\bar{X}$	$\bar{X}_w$	σ_w	$\bar{X}$	$\bar{X}_w$	σ_w
	Quiz	Quiz	Quiz	No Quiz	No Quiz	No Quiz	Combined	Combined	Combined
1	0.761	0.761	0.202	0.915	0.936	0.017	0.716	0.877	0.145
2	0.547	0.496	0.043	0.846	0.817	0.140	0.785	0.536	0.124
3	0.540	0.471	0.268	0.436	0.824	0.207	0.458	0.702	0.285
4	0.477	0.503	0.228	0.508	0.414	0.304	0.504	0.459	0.271
5	0.676	0.738	0.049	0.269	0.312	0.342	0.277	0.345	0.348
Combined	0.535	0.633	0.231	0.524	0.840	0.240	0.525	0.755	0.258
Correlation	-0.328	-0.044	-0.183	-0.934	-0.939	0.986	-0.895	-0.863	0.910

The *Correlation* row in Tables 10 and 11 were based on completion rates that were weighted by enrollment numbers within each PC. Therefore, all of the courses separated by quiz offering, regardless of PC, were not weighted equally against each other. To correct this problem the data in Tables 12 and 13 were generated for the annual and lifetime data respectively. The data was first separated by quiz offering while maintaining PC integrity and then weighted by enrollment numbers. Therefore, all of the courses that offered a quiz within PC 1 were weighted against all of the courses with a quiz within the remaining PCs. The *weight column* provided the calculated proportion of the overall enrollment totals for each PC. For example, the annual weighted completion rate means, or $\bar{X}_w$, of all courses with a quiz was 0.508 while the weighted completion rate for courses without a quiz was 0.716.

Table 12. Annual Completion Rates Weighted by Quiz Offering

Annual Pass Rates									
Project Code	Type	Total Enrolled	Pass Rate	Weight (W_i)					
1	Quiz	444,516	0.495	0.301					
2	Quiz	569,469	0.536	0.386					
3	Quiz	230,386	0.524	0.156					
4	Quiz	203,505	0.416	0.138					
5	Quiz	26,714	0.677	0.018	$\bar{X}$	$\bar{X}_w$	σ_w^2	σ_w	Correlation
	Total	1,474,590	NA	1.000	0.530	0.508	0.002	0.046	0.408
1	No Quiz	1,369,692	0.904	0.614					
2	No Quiz	70,799	0.816	0.032					
3	No Quiz	404,630	0.400	0.181					
4	No Quiz	197,485	0.483	0.088					
5	No Quiz	189,219	0.240	0.085	$\bar{X}$	$\bar{X}_w$	σ_w^2	σ_w	Correlation
	Total	2,231,825	NA	1.000	0.568	0.716	0.064	0.253	-0.933

Table 13. Lifetime Completion Rates Weighted by Quiz Offering

Lifetime Pass Rates									
Project Code	Type	Total Enrolled	Pass Rate	Weight (W _i)					
1	Quiz	2,712,926	0.554	0.516					
2	Quiz	1,324,486	0.547	0.252					
3	Quiz	513,724	0.540	0.098					
4	Quiz	669,076	0.477	0.127					
5	Quiz	34,875	0.676	0.007	$\bar{X}$	$\bar{X}_w$	σ^2_w	σ_w	Correlation
	Total	5,255,087	NA	1.000	0.559	0.542	0.001	0.027	0.380
1	No Quiz	5,293,430	0.915	0.705					
2	No Quiz	189,886	0.846	0.025					
3	No Quiz	972,187	0.436	0.130					
4	No Quiz	636,212	0.508	0.085					
5	No Quiz	411,835	0.269	0.055	$\bar{X}$	$\bar{X}_w$	σ^2_w	σ_w	Correlation
	Total	7,503,550	NA	1.000	0.595	0.781	0.049	0.221	-0.934

THIS PAGE INTENTIONALLY LEFT BLANK

V. DATA ANALYSIS

A. **H1: THERE IS A CORRELATION BETWEEN THE TYPE OF MOTIVATION FOR ENROLLING IN A COURSE AND THE EOC EXAM SCORES.**

This hypothesis was grounded in the literature on motivation that stated that individuals who were learning for motivations that were extrinsic in nature will perform differently than individuals who were learning for motivations that were intrinsic. Specifically, the literature states that an individual will have better course learning outcomes or achievement scores if he/she was engaging in the course for intrinsic reasons. Therefore, if the MarineNet dataset followed the literature, the exam scores and performance in courses would be lower within the Project Code (PC) 1 (highly extrinsic) category and be the higher for courses in PC 5 (lower extrinsic or intrinsic) category. For the analysis of exam scores, the available data was limited to mean exam scores for each of the first three exam attempts as well as the total number of students for each attempt.

The results for this section were retrieved from Tables 6 and 7. Focusing on the first attempt of the exam, the correlation between the weighted exam score mean and the annual and lifetime data was a low positive correlation of 0.341 and 0.356 respectively. This result suggests that the exam scores were increasing as the courses become more intrinsic and therefore reject the null hypothesis; however, only a third of this increase can be attributable to the independent variable of motivation type. For the second exam attempt, the correlation was a moderate to high positive correlation of 0.85 and 0.63 for the annual and lifetime data respectively. With this result the null hypothesis is rejected and suggests that two thirds of the increase in exam scores can be attributed to the PCs. For the third exam attempts the annual data correlation was -0.311 and the lifetime data correlation was 0.568. Due to the inconsistency of the results for the annual and lifetime data the null hypothesis cannot be rejected. The exam score values for both the 2015 and lifetime data set are depicted in Figure 9.

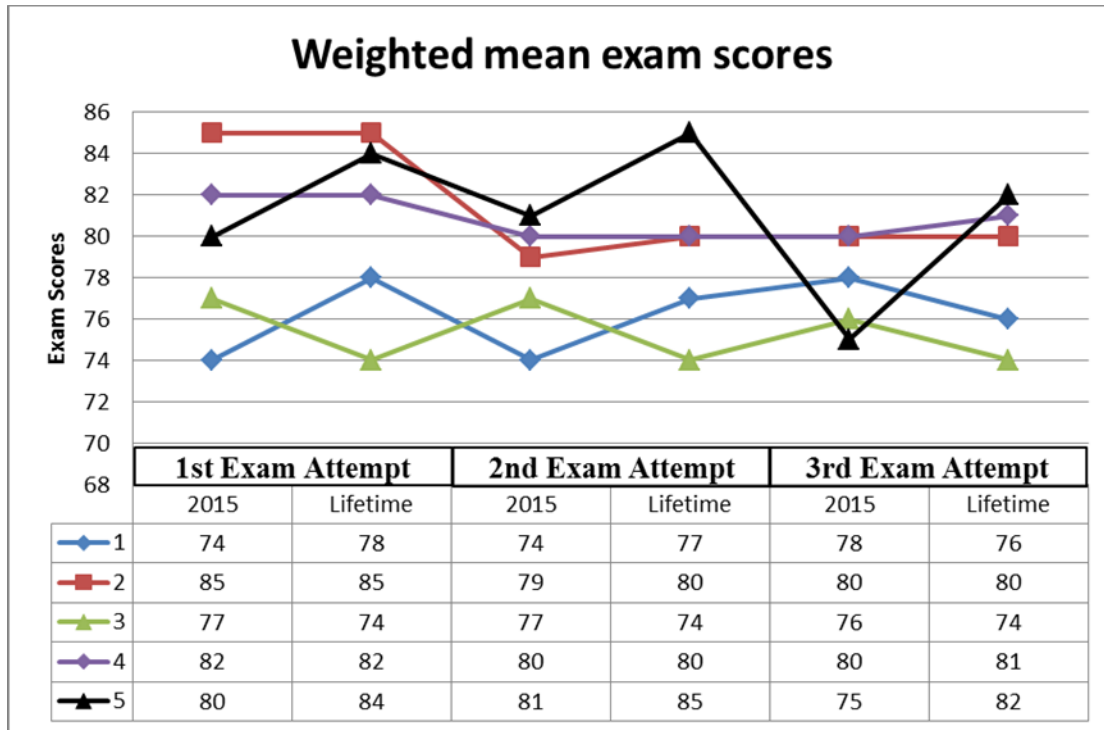


Figure 9. Weighted Mean Exam Scores by Project Code
(Annual and Lifetime)

The mismatch in results for the third exam attempt between annual and lifetime results may be attributed to a multitude of reasons. Figure 10 demonstrates a possible reason for the mismatch in that the weighted mean exam scores were significantly lower for courses in PC 5 in 2015 relative to the lifetime average especially on the third exam attempt. A possible explanation for this difference could be the large number of courses within the PC 5 category that were activated in 2013 as depicted in Figure 10. The influx of new courses not only increased the sample size, but also could have been more intellectually challenging than the courses prior to 2013. Focusing on the lifetime results individually, there was a moderate correlation of 0.568 between the weighted exam scores on the third exam attempt and the independent variable motivational factors for taking the course. The results suggest that other forces besides motivation are present and could be impacting the exam scores. Other potential factors may include the wording of the quiz questions, prior knowledge level of the student, the variation in course design, or the inconsistent value that each unit assigns to DE.

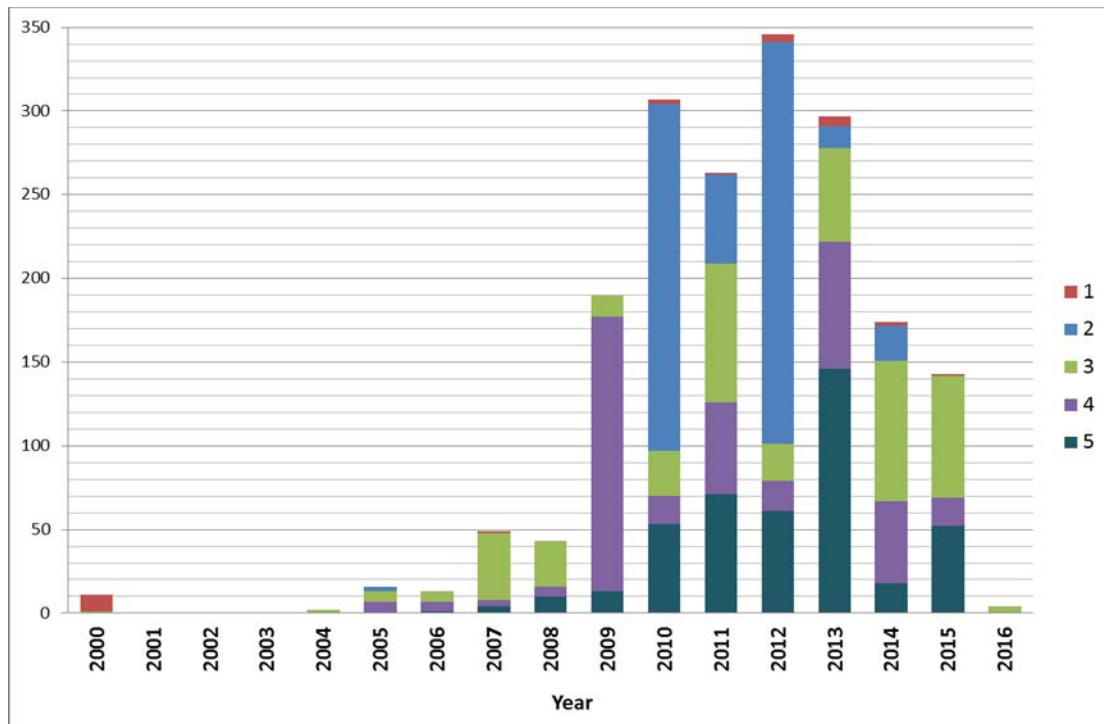


Figure 10. First Enrollment in Course by Year and Project Code

B. H2: THERE IS A CORRELATION BETWEEN THE TYPE OF MOTIVATION FOR ENROLLING IN A COURSE AND THE EOC EXAM FAILURE RATES.

When the failure rates were evaluated for courses that offered an exam, the results suggested that failure rates were affected by the motivational factors in the PC categorization. As stated previously, the failure rate delta was the difference between the failure rate on the first exam attempt and the second exam attempt. For this measure a positive number would indicate that the failure rate decreased between the first and second exam attempts. A positive number may also indicate that a lower percentage of students failed the exam on the second exam attempt compared to the first attempt. A negative number would indicate that the failure rate increased on the second exam attempt or a higher percentage of students failed the exam on the second attempt. The results from this section were retrieved from Tables 8 and 9.

The correlation between the failure rate delta and the PCs was a moderate to high correlation of 0.681 and 0.929 on the annual and lifetime data respectively. This result

rejects the null hypothesis and suggests that students who took a course that was more intrinsically motivating would have a greater chance to pass the exam on the second try than if they were taking a course that was more extrinsic in nature. Additionally, the results suggest that students who took an exam for an extrinsic reason such as to fulfill a requirement may have attempted the exam a second time without exerting much effort to improve the score by studying the course material. Alternately the results show that a student who took a course for intrinsic reasons may be more inclined to spend more time on the course material in order to improve his/her exam score. The failure rate delta between the first and second exam attempts over the lifetime of the data had a much smoother progression when compared to the annual data as depicted in Figure 11.

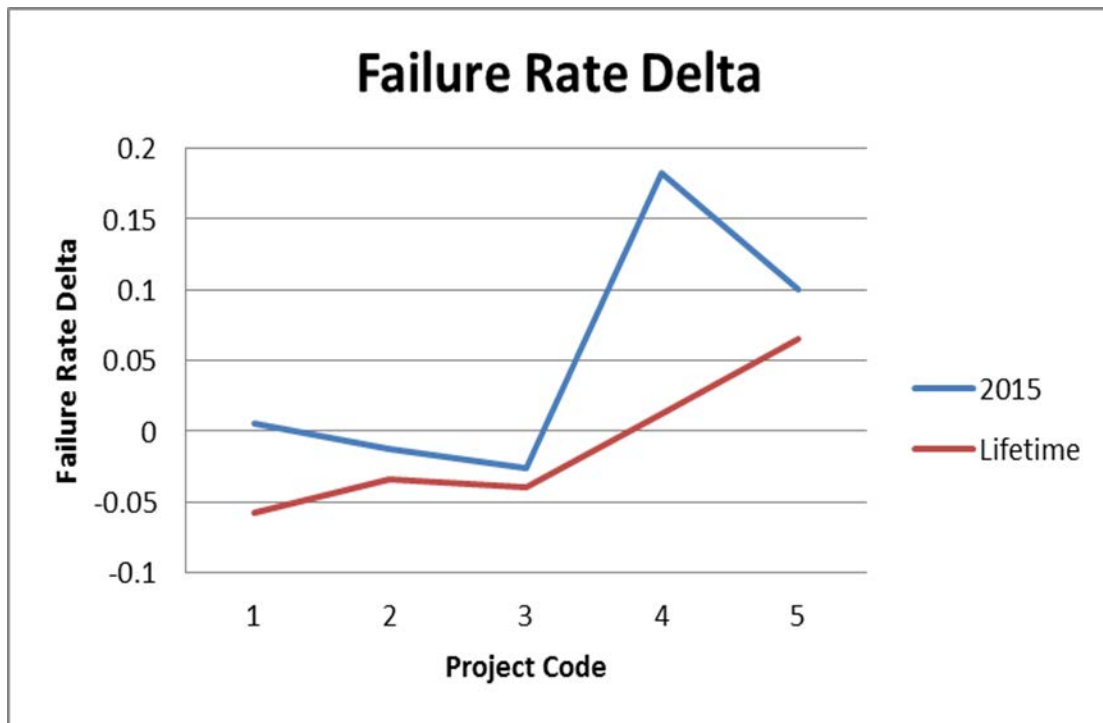


Figure 11. Failure Rate Delta from 1st and 2nd Exam Attempt

C. H3: THERE IS A CORRELATION BETWEEN THE TYPE OF MOTIVATION FOR ENROLLING IN A COURSE AND THE COURSE COMPLETION RATES.

This hypothesis was reliant upon the same supporting literature on motivation except this hypothesis focused specifically on course completion data instead of exam scores. Since course completion was applicable to all courses in the MarineNet catalog, the representative sample was much greater than the narrow focus on exam scores. Similar to producing higher exam scores, the literature suggested that the type of motivation will have an impact on whether or not a student will decide to complete a course. Specifically the research indicated that a student who was extrinsically motivated in the decision to enroll in a course will be less likely to complete the course compared to the same student who had intrinsically motivations. If the literature was consistent with the MarineNet dataset, the completion rates would be the lower for courses in PC 1 and the higher for courses in PC 5. Therefore, a positive correlation between the PCs and the completion rates would suggest that completion rates increased as the courses became more intrinsic. A negative correlation between these two variables would suggest that completion rates were higher for the courses in the extrinsic category and lower for the courses in the intrinsic category.

Focusing specifically on the completion rate weighted mean, or $\bar{X}_w$, the courses were first separated by PC and then separated by whether or not they offered a quiz at the end of the course. For the courses that offered a quiz, the correlation between the PCs and the completion rate $\bar{X}_w$ was a very low mixed value of 0.118 and -0.044 for the annual and lifetime data respectively as depicted in Tables 10 and 11. This result was not significant and therefore the null hypothesis cannot be rejected. The problem with this form of course weighting was that the courses were only weighted against themselves within the PC. When the courses that offered a quiz were first weighted by enrollment numbers in every course with a quiz and then separated into the PCs the correlation was a moderately positive correlation of .408 and .380 for the annual and lifetime data respectively as depicted in Tables 12 and 13. The result rejects the null hypothesis and suggests that about a third of the completion rates for courses that offer a quiz can be

attributable to the motivational factors of the PCs. It should be noted the proportion of courses in the dataset that offered a quiz was only 15% of the overall course offering.

For the remaining 85% of the courses without a quiz, the correlation was a high negative value of -0.900 and -0.939 for the annual and lifetime data. When all of the courses, regardless of the exam offering, were combined the null hypothesis was rejected since the correlation was -0.858 and -0.863 for the annual and lifetime data. Similarly, the alternate hypothesis was further supported when the courses were first weighted against all courses without a quiz and then categorized into PCs that produced high negative correlations of -0.933 and -0.934 for the annual and lifetime data respectively. The high negative correlation suggests that the students were more likely to complete a course that did not offer an exam if the reason for enrolling in the course was extrinsic in nature. Similarly, when the pressures for completing the course were removed and the motivation was more intrinsic the results indicated that students were less likely to complete the course when an exam was not offered.

The hypothesis was supported by the results of this analysis. The type of motivation for enrolling in the course does have an effect on the course completion rates when the complete dataset was analyzed. Since the majority of courses did not offer an EOC exam, the cumulative results closely followed the trend for courses that do not offer an exam. For courses that did offer an EOC exam, the hypothesis was only partially supported; however, the completion rates for courses that did not offer an exam overwhelmingly supported the hypothesis. For the EOC exam courses, other factors may be attributable to the completion rates including the wording of the exam questions, the complexity and format of the exam, the length of the exam, the prior knowledge of the student, and the individual test taking skills of the student. For the courses that did not offer an exam, the results indicated a correlation between the completion rates and the course motivation.

D. H4: DE COURSES THAT MEET THE CRITERIA FOR A HIGHER EXTRINSIC MOTIVATION FOR ENROLLMENT WILL HAVE A NEGATIVE EFFECT ON EOC EXAM SCORES.

The results for this section were retrieved from Tables 6 and 7. The sub-hypothesis that exam scores will be affected by the type of motivation for enrolling in the course was partially supported by the results. Focusing on the exam scores only, the null hypothesis was rejected. On the first exam attempt the correlation between the independent variable and the weighted exam scores means were a low positive correlation of 0.34 and 0.35 for the annual and lifetime data respectively. On the second exam attempt, there was a high positive correlation of 0.85 and 0.63. Finally, on the third exam attempt there was a mixed correlation -0.31 and 0.56. When focusing on the change in weighted mean exam scores by exam attempt within the PC, the results were not significant and therefore the null hypothesis cannot be rejected. The trend for how the weighed exam score means changed between the first, second, and third exam attempts did not demonstrate a pattern that could be attributed to the independent variable. A possible cause may be due to a variety of factors such as the exam difficulty variation between courses, the type and wording of the questions, the variable length of the exam as well as other variables not addressed in this research.

E. H5: DE COURSES THAT MEET THE CRITERIA FOR A HIGHER EXTRINSIC MOTIVATION FOR ENROLLMENT WILL HAVE A NEGATIVE EFFECT ON EOC EXAM FAILURE RATES.

The results for this section were retrieved from Tables 8 and 9. The sub-hypothesis regarding the course failure rates were partially supported by the results. For the failure rate correlation a negative result would indicate that the failure rate was higher for extrinsic courses and lower for intrinsic courses. The failure rate correlations on the first exam attempt were a mixed result of 0.425 and -0.571 for the annual and lifetime data respectively. The failure rate correlations on the second exam attempt were negative correlations of -0.269 and -0.737 for the annual and lifetime data respectively. Due to the mixed result on the first exam attempt the null hypothesis cannot be rejected; however, the alternate hypothesis is partially supported on the second exam attempt. For the failure rate delta or the change in the failure rate from the first and second exam attempts did

support the alternate hypothesis. A positive failure rate delta would signify a decrease in the failure rate between the first and second exam attempts. All of the failure rate deltas for PCs are tabulated, a positive failure rate delta correlation would indicate that the failure rates decreased between the first and second exam attempts for less extrinsic courses. The failure rate delta results were strong positive correlations of 0.681 and 0.929 for the annual and lifetime data respectively. The failure rate delta decreased for the less extrinsic courses indicating that the percentage of students failing the exam on the second attempt was lower than the first attempt. Similarly the higher extrinsic courses had a failure rate that either remained the same after the first attempt or increased on the second attempt. The results reject the null hypothesis and indicate a difference in the students' ability to successfully pass the exam after an initial failure depending on the motivation type.

F. H6: DE COURSES THAT MEET THE CRITERIA FOR A HIGHER EXTRINSIC MOTIVATION FOR ENROLLMENT WILL HAVE A NEGATIVE EFFECT ON COURSE COMPLETION RATES.

The data for this section relating to the completion rates of courses that were weighted by enrollment numbers within the PCs was retrieved from Tables 10 and 11. For this measure a negative correlation would indicate that the completion rates were higher for extrinsic courses and lower for the intrinsic courses. The completion rate correlations were high negative correlations of -0.858 and -0.863 for the annual and lifetime data respectively. The data relating to the completion rates of course that were weighted by enrollment numbers and separated by quiz offering was retrieved from Tables 12 and 13. For the courses that offered a quiz, the correlations were low positive correlations of 0.408 and 0.380 for the annual and lifetime data. For the courses that did not offer a quiz the results were high negative correlations of -0.933 and -0.934. Since the vast majority of the courses in the dataset did not offer a quiz the null hypothesis cannot be rejected. In fact the results indicated a strong correlation in the opposite direction than was expected result. The completion rates, on average, were higher for the courses that had an extrinsic value and lower for the courses with an intrinsic value. The results of this analysis challenge the arguments made in the literature review that students would be

more likely to complete a course if the individual motivation for taking the course was intrinsic in nature. Likewise, the results challenge the argument that forcing a person to enroll in a course will result in a less motivated student who will be more likely to drop out of the course before completing it. Therefore, the results have produced a gap within the model of motivation and learning outcomes as it relates to the military and the Marine Corps specifically.

G. EXPLORATORY ANALYSIS

The analysis of the MarineNet dataset was completed with a focus on the course type as it related to the students' motivation. There was not an emphasis on the various types of students that participated in the course. For exploratory analysis, the military grade or rank of the individual was categorized to determine what differences may be present in the course completion rates. The dataset utilized for this research did not completely separate each course by rank; however, the dataset did contain the most active rank for each course as well as the second and third most active rank. The total number of each of the three most active ranks was also provided. A limitation of this dataset was an inability to provide a complete understanding of how each individual rank performed; however, certain inferences can be made when a course is dominated by a certain rank or ranks. For example, the courses in PC 2 were highly rank specific Professional Military Education (PME) that was required for career advancement. Therefore, even if a few E-3 Lance Corporals completed the E-4 Corporals' PME the course would still be dominated by E-4s and the motivation for completing the course would be the same. Additionally, the quantity of the active ranks for each course can be divided by the total enrollment numbers in order to provide an overall percentage. By calculating the percentage of the rank, the courses could then be categorized with other courses that are dominated by a particular rank. Figure 12 is a depiction of the student enrollment for courses in each PC separated by rank.

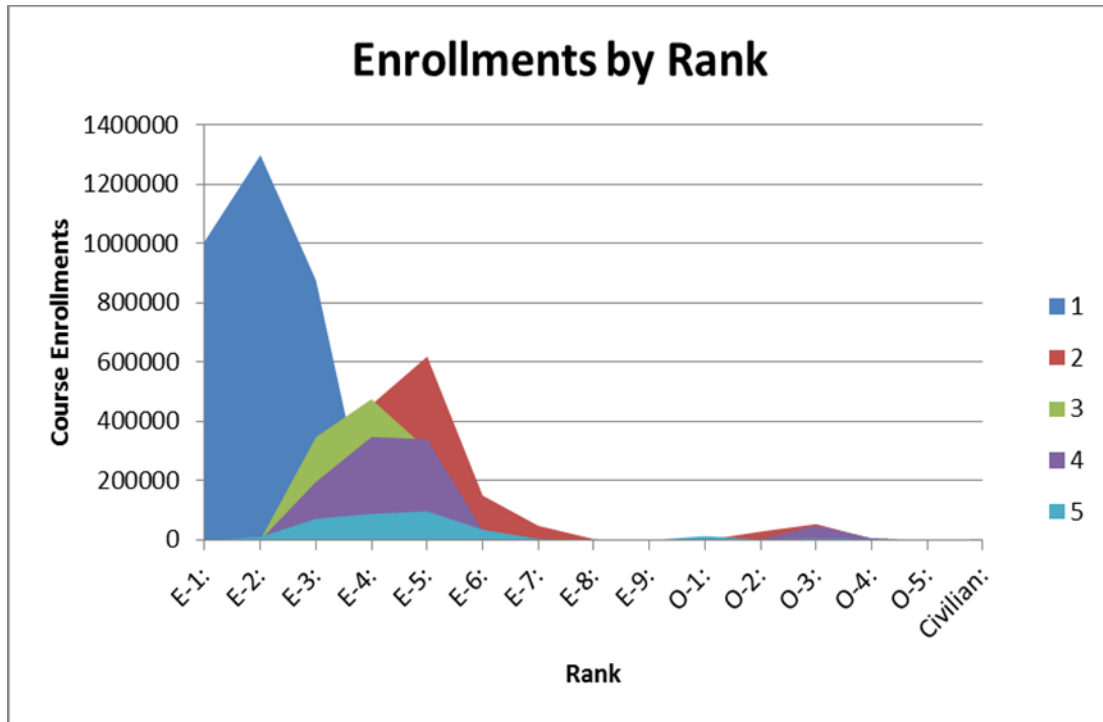


Figure 12. Quantity of Course Enrollments by Rank and Project Code

The data in Figure 12 was calculated exclusively from the lifetime dataset. The mandatory courses in PC 1 were dominated by the junior ranks of E-1 to E-3. The PME courses in PC 2 were predominately Non-Commissioned Officers (NCOs) (E-4 & E-5) as well as Staff Non-Commissioned Offices (SNCOs) (E-6 & E-7). The Military Occupational Specialty courses in PC 3 and the competitive courses in PC 4 were dominated by the ranks of E-3, E-4, and E-5. The professional development courses in PC 5 were mostly popular with the ranks of E-3, E-4, E-5, and E-6.

For the exploratory analysis, the theme of motivation was continued in the course PCs and the first and second most active ranks were categorized. The most popular rank combinations were grouped together for analysis: E-3 and E-4, E-4 and E-5 (NCOs), E-5 and E-6, E-6 and E-7 (SNCOs), and O1-O4 (Officers). The purpose of this analysis was to determine if the course completion rates differed by rank grouping. Additionally, the correlation between the course completion and PC types was calculated to determine if the motivational factors differed by rank grouping. To complete this analysis the lifetime data was first separated by PC and then segmented by the rank groupings. The quantity of

courses that were included in the analysis is depicted in Figure 13. Unfortunately, there were some PCs that did not include any courses that met the rank grouping criteria so this data were not included in the calculation. Additionally, PC 1 was excluded from the analysis since this series of courses was dominated by only a couple rank groupings.

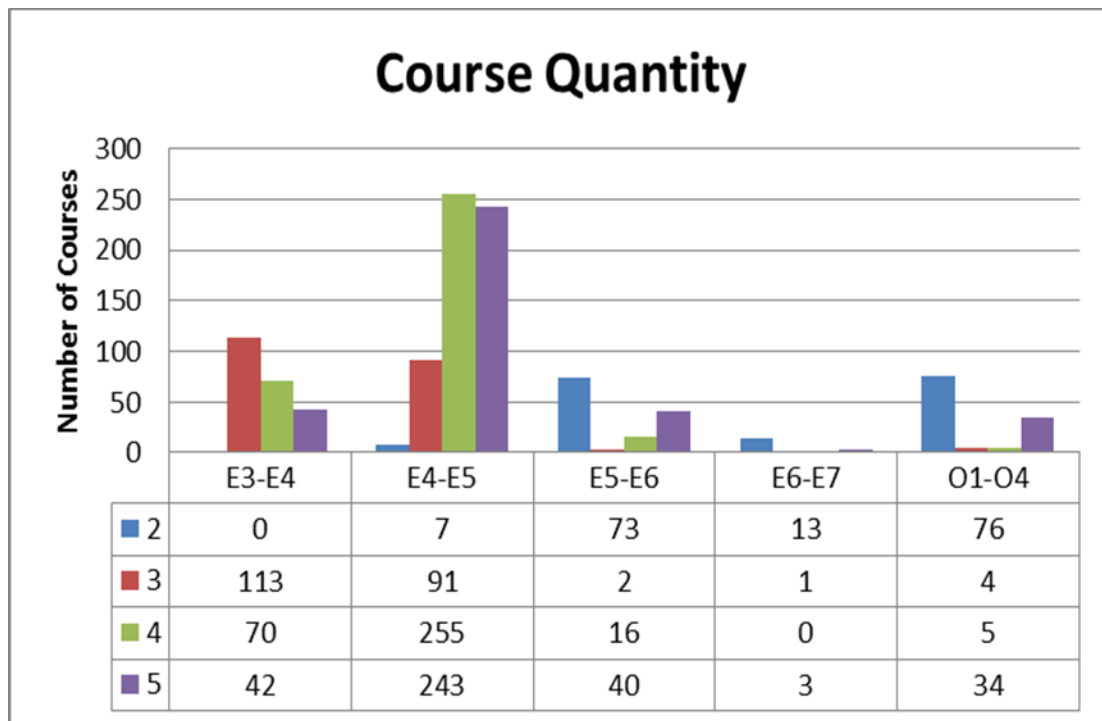


Figure 13. Course Sample Size for Completion Rate Analysis

The completion rates were weighted against the enrollment numbers for each rank grouping in order to provide a more generalizable result. The rank grouping that had the highest average completion rate of 0.77 was the E-6 and E-7 grouping; however, this group also had the fewest amount of courses in the sample. The rank grouping with the second highest average completion rate of 0.70 was the E-3 and E-4 grouping. This rank group also had the second largest amount of courses in the sample. The rank grouping that had the lowest average completion rate of 0.41 was the E-4 and E-5 grouping and this group also had the largest total number of courses in the sample. The results of the completion rate analysis are depicted in Figure 14.

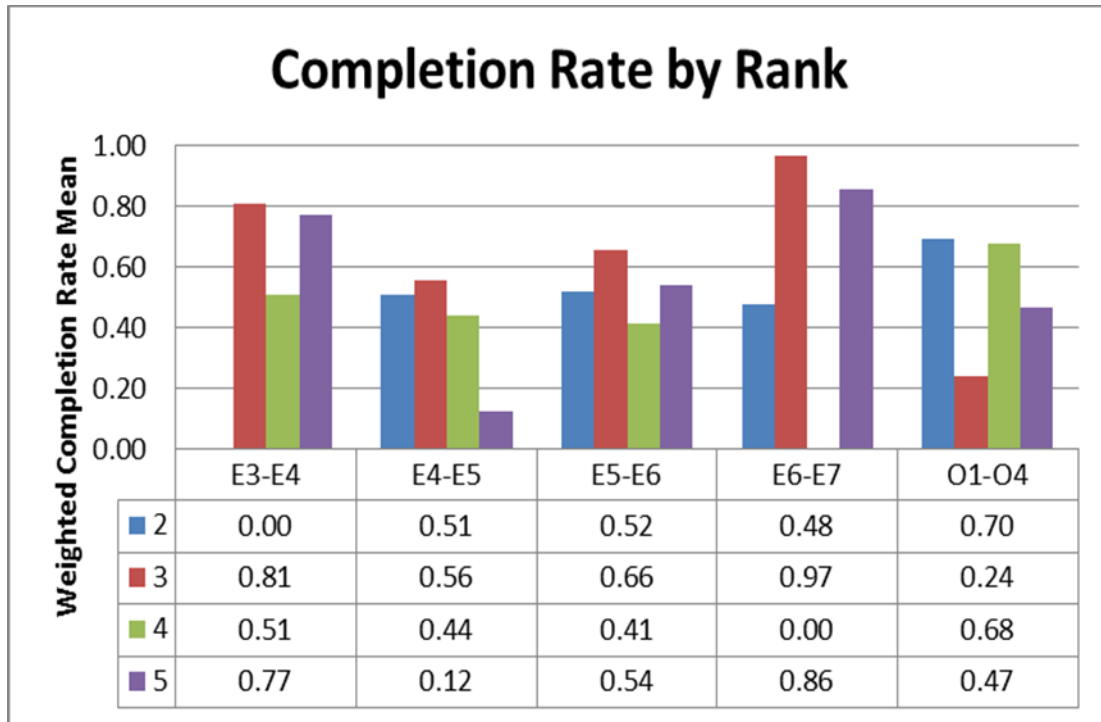


Figure 14. Weighted Completion Rate Means by Rank Groupings and Project Code

The correlation results between the course completion rates and the independent variable PCs were mixed. The rank grouping with the highest positive correlation of 0.695 was the E-3 and E-4 grouping. The result suggests a higher completion rate for the more intrinsic courses within this rank grouping. The rank grouping of E-4 and E-5 had a high negative correlation of -0.840 suggesting the completion rates were higher for the extrinsic courses and lower for the intrinsic courses. The correlations in the other rank groupings were not significant. An interesting result within the individual PCs was the O-1 to O-4 group had the highest completion rate for the PME related courses in PC 2 and the lowest in the MOS related courses in PC 3. The students in the O-1 to O-4 rank grouping are commissioned officers were required to complete a minimum of an undergraduate degree; however, the extra academic experience did not produce higher completion rates other than in PC 2. Another interesting result was the E-4 and E-5 grouping performed disproportionately worse on the courses in PC 5 compared to the other rank groupings.

As noted above, there are very limited conclusions that can be drawn from the results of this exploratory analysis. The dataset used in this research was contaminated with small numbers of additional ranks within the rank groupings. For future studies, MarineNet does have the ability to parse the data by rank and many other variables that were not the focus of this research. The results do conclude that there is a vast amount of knowledge within the data being collected by MarineNet that is ripe for further academic research.

Another finding of the analysis was the variability of the completion rates within each PC. The Coefficient of Variation (CV) was used to calculate the amount of variation that was present relative to the weighted mean. The CV is the quotient of the standard deviation and mean and was a better measure of variation than the standard deviation. The CV was a better measurement because the inconsistent value of the standard deviations was dependent on the scale of the variable that was being measured. The CV result was presented as a percentage with a smaller number signifying a small variation between the data and a larger number signifying a large variation. In the context of this research, a large CV would suggest that the completion rates within each PC had a large variation from the mean. Likewise a small CV would suggest the course completion rates did not vary significantly from the mean. Only the weighted means and weighted standard deviations were used for this calculation. The CV is depicted in equation 7.

$$C_v = \frac{\sigma}{\mu} \quad (7)$$

The CV values were consistent in both the annual and lifetime data regardless of whether the course offered a quiz. For the courses that offered a quiz the motivation for enrolling in the course did have an effect on the amount of variability in the course completion rates. Within each PC, the lowest variability in completion rates was found in PCs 2 and 5. The highest variability was found in PCs 3 and 4. The courses in PC 1 had an intermediate variability. The CV values for the courses that offered a quiz are depicted in Figure 15. The correlation between the PCs and the CV values for the courses that offered a quiz was not significant in either the annual or lifetime data with a value of

-0.079 and -0.022 respectively. The result suggests that the CV value for completion rates within each PC does not progress steadily as the courses move from extrinsic to intrinsic. Instead the finding demonstrated a unique variability of completion rates within each PC for courses that offered a quiz.

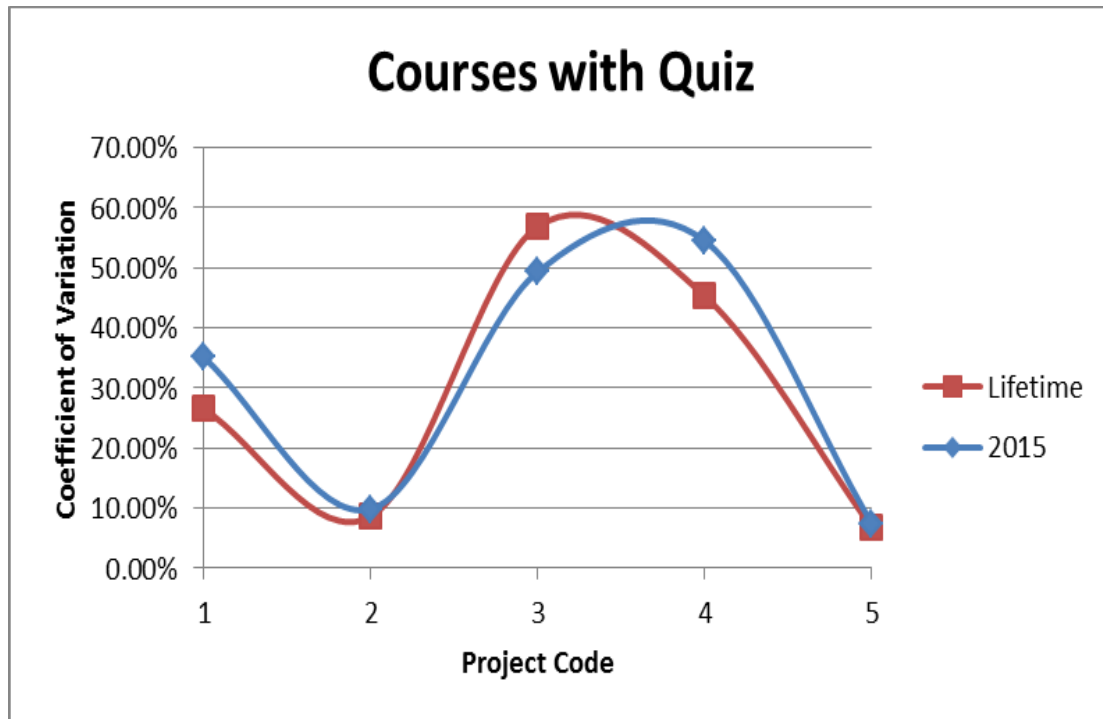


Figure 15. Courses with Quiz Coefficient of Variation

The CV values for the courses that did not offer a quiz produced a much smoother curve than the courses with a quiz. The lowest CV values were found in PC 1 and the highest values were in PC 5. There was an upward progression in CV values as the courses and PCs became more intrinsic. For PC 1, the completion rates were very consistent indicating there was a low variability in completion rates. Alternately the completion rates in PC 5 had very high variability. The CV values for the courses that did not offer a quiz are depicted in Figure 16. The correlation between the PCs and the CV values for the courses that did not offer a quiz was a high positive correlation in both the annual and the lifetime data with a value of 0.955 and 0.960 respectively. The CV values for the courses without a quiz are depicted in Figure 16.

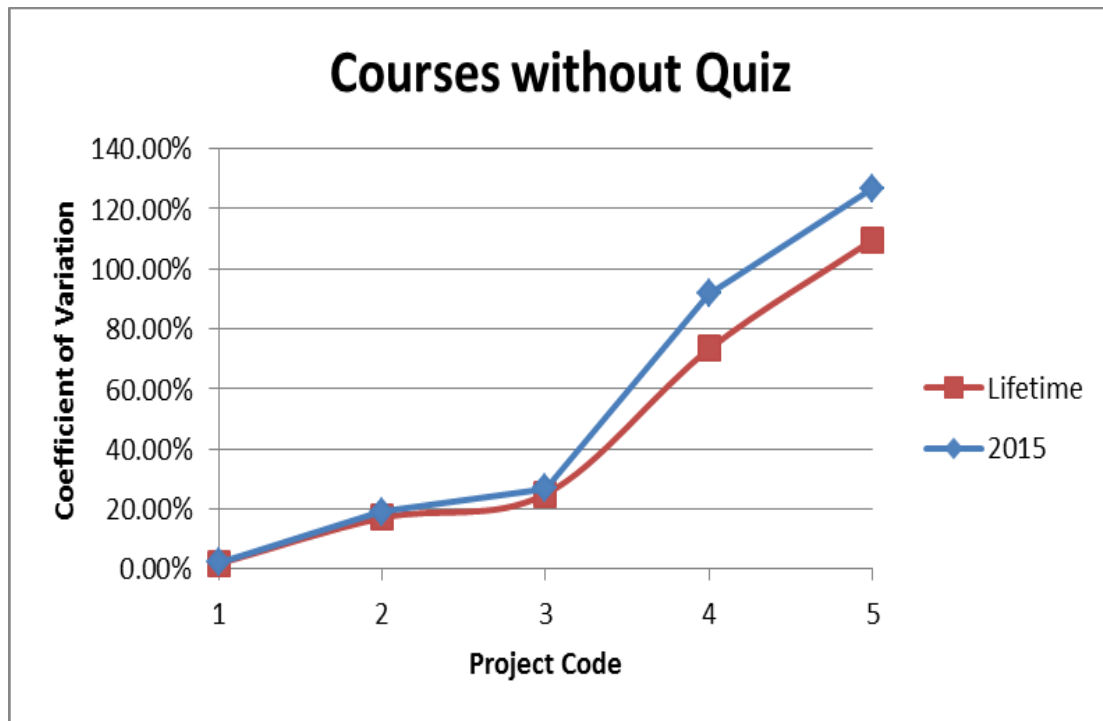


Figure 16. Courses without Quiz Coefficient of Variation

H. DISCUSSION OF THE RESULTS

Since the majority of the data collected on distance education in the civilian sector was focused mostly on higher education, the literature that supports the theory on motivation cannot be applied directly to military. First of all the financial implications are very different from civilians attending higher education and Marines when the decision is made to enroll in a DE course. For civilians, enrollment in a DE course would incur a tuition cost that would either have to be paid for by the individual or the individual's employer. Therefore, there would be a financial incentive to complete the course. For the Marine Corps, the costs associated with a Marine enrolling in a DE course are absorbed by the organization and are transparent to the individual Marine. Therefore, there are no financial incentives for Marines to complete the course or to only enroll in courses that the Marine intends to complete. Without a financial consequence, a Marine may enroll in any course that he/she is eligible for and there are no consequences for not finishing the course other than being dis-enrolled after a given amount of time. The difference in financial responsibility may be a reason why the completion rates for the courses in the

intrinsic categories were lower than the extrinsic courses. Under the current system, a Marine may be initially interested in the subject matter of the course and then decide to not complete the course for a multitude of reasons since there are no ramifications.

Another difference between civilian students and Marines may be found in the motivation to complete the course and receive a certain grade in order to obtain a high Grade Point Average (GPA). Civilians who enroll in DE courses to obtain some form of qualification or degree also have the added motivation to complete the program with a high GPA. A high GPA may increase competitiveness for follow-on educational programs or job placements. The motivation for a high GPA is not present within the Marine Corps DE program. For the vast majority of the MarineNet courses the passing score is 80 % and there is no clear incentive to obtain a score higher than the minimum. For the majority of the intrinsic and extrinsic reasons for enrolling in a course, simply completing the course with either a passing score or a perfect score are weighted the exact same. This applies to all course types whether the course is for annual training, promotion, skill progression, competitiveness, or professional development. The course grade is recorded in the Marine's official record; however, there are no advantages for achieving a higher grade compared to simply passing or completing the course.

The motivation to complete a mandatory course is also very different between civilians in higher education and the Marine Corps. For civilians, the literature for highly extrinsic courses is mostly the general educational requirements that are required as part of an academic curriculum. If the student does not complete the course, there would be some form of financial implications and possible academic repercussions; however, the student still has some form of individual choice. For the highly extrinsic courses in the Marine Corps, there is no individual choice on whether to complete a required course. The repercussions for non-compliance are severe and may include punitive repercussions for failure to follow a direct order. The disparity in consequences may be a reason why the completion rates in this research were so high for the courses in PC 1. Additionally, the repercussions for not completing the Professional Military Education courses in PC 2 are potentially career ending so there is no equivalent to the civilian college experience. Perhaps if there was more data reflecting the required courses that are a condition for

employment within an organization, there would be a larger correlation with the results found in this research.

The final difference that should be noted between the civilian college experience and the Marine Corps DE program is the value placed on course completion. For most academic programs there are openings in the academic schedule for electives that give the student the flexibility to enroll in courses that are outside of the students' field of study. Electives enable the student to enroll in courses that may be more intrinsic in nature; however, the course completion and GPA would still be included in the students' overall academic record. Therefore, even though the motivation for enrolling in the course may be intrinsic in nature, there are still extrinsic forces at work. This is not the case in the Marine Corps DE program. The benefits for completing courses outside of the annual training and career progression curriculums are unclear to the individual. Some commanders may value the initiative and dedication of a Marine who completed courses in the intrinsic categories and take this into account for recognition such as proficiency and conduct marks, awards, and promotions; however, there are other commanders that do not value the course completions at all. The result of this disparity in value could be the reason why the completion rates and exam scores for the courses in the intrinsic categories were much lower than anticipated.

THIS PAGE INTENTIONALLY LEFT BLANK

VI. CONCLUSION

A. SUMMARY

The purpose of this thesis was to explore how student motivation impacted human learning and performance on MarineNet distance education (DE) courses. The application of this knowledge could then be combined with other research to create a new Measure of Effectiveness (MOEs) for DE courses within the Marine Corps to ensure learning objectives are being achieved. The literature review outlined the current academic research on human motivation and how this variable impacts human performance and learning outcomes. Specifically the research suggested the variable of motivation was not singular and the impact that motivation had on human learning will depend on the specific type of motivation for participating in the task. If the motivation was more intrinsic in nature, the performance in terms of completion and learning outcomes was better. Alternately if the motivation was extrinsic in nature, the performance decreased.

When this motivational model was applied to the MarineNet dataset, the results were dependent on whether the course offered an exam at the end. If the course did offer an exam, the exam score partially supported the motivational model and the failure rates between each exam attempt did support the motivational model. For the vast majority of courses that did not offer an exam, the results were not supportive of this model. In fact, the correlation was the exact opposite of what was expected based on the literature review. Even the variability in completion rates demonstrated a linear progression opposite of the expected model. The results for the courses without a quiz suggest that students are more apt to complete the course and perform relatively consistently if the motivation is extrinsic in nature. Alternately the results suggest that a student will be less apt to complete a course and perform inconsistently if the motivation is intrinsic in nature. Therefore, the results of this study can be used as a catalyst to address the relevant questions of why the Marine Corps DE performance is different than the civilian model of motivation.

The conclusion that can be drawn from this thesis is that the motivational model of civilian DE and higher education students cannot be directly applied to the Marine Corps DE program in the motivational categories utilized for this thesis. There are differences between civilian and Marine Corps DE programs in terms of financial implications, grade-point-average, individual repercussions for failure and the value place on DE achievement. All of these differences introduce alternate forces that must be taken into account before the theory of motivation can be applied to the Marine Corps DE program. Additionally, the differences in motivational models introduce policy questions that can be addressed to ensure the DE program is achieving the mission that was intended. What can be ascertained from this research is that motivation does play an important role in the academic performance of DE students, civilian and the military alike, and should be included in the creation of more comprehensive MOEs in the future.

B. LIMITATIONS

The first limitation of this research was the manner in which the courses were categorized in terms of motivation. With the data that was available for this research, there was no way to definitively determine which type of motivation the students were experiencing when making the decision to enroll and complete or not complete a DE course. Since the data for this study was archival and did not include survey data or interviews, there was no way to determine the genuine motivation of each student. Additionally, this research assumed the motivation of each student would only fall into a single category when in reality, the literature suggested that motivation types are fluid and individuals can experience multiple types of motivation at the same time. Further studies on this subject should include survey data or interviews to gain a more accurate understanding of participant motivation.

A second limitation of this study was the subjective nature of course categorization into motivation types. The MarineNet catalog provided some objectivity by utilizing the broad categories of courses provided on the MarineNet website. Many of the MarineNet categories were very similar and fit easily into the motivational categories. Other courses, however, fit into multiple categories and a subjective decision was made

based on the course description and anecdotal experience of the author. Future research should verify these categories with survey data to determine if the predominant motivation for each course matched the assigned category.

A third limitation of this study was the dataset that was provided by MarineNet. The dataset contained several instances where the methodology for how the numbers were tabulated was unclear. There were also instances of missing or clearly incorrect data. For example, the MarineNet database captured the cumulative time for each participant to complete a course from enrollment to completion. This data was largely missing on the majority of the courses. In addition, the cumulative time limit included the off-line time so the times provided were enormous and did not provide any way to determine precisely how long a participant actually needed to complete a course.

The final limitation of the dataset was the inability to determine how many times a participant was allowed to take the EOC exam before being dis-enrolled from the course. The default on the majority of the courses was three exam attempts and then the participant will receive a failure for the course and be dis-enrolled. The problem with the dataset was that it only contained the information for the first three exam attempts. After the three attempts it was unclear if further exam attempts were allowed or if the student was given a failure and dis-enrolled. An example of the confusion was in the instance of the *Joint Anti-Terrorism Level 1* course in PC 1. For this course the average score for the third exam attempt was a failing score of 78 suggesting a number of students failed the exam three times; however, the column that displayed course failures contained zero failures. This would suggest that a participant may have been allowed to take the exam more than three times or the failure data was not being collected properly in the database. This is a problem because the data collected on course failures in the database does not reflect accurate information which bring into question the integrity of other data being collected.

C. RECOMMENDATIONS TO MARINENET

The data collected by MarineNet is impressive and the level of detail enables high level snapshots of course trends and student performance. This data is unquestionably a

valuable resource for decision makers because it provides a broad understanding of the health of the DE program and a snapshot of courses that are excelling or underperforming. The dataset could be improved by the inclusion of other variables in that may provide decision makers with more specificity. The goal of the extra data collection would be to provide a greater understanding of the how Marines actually learn and whether a particular course is meeting the intended learning objectives.

The first recommendation is the accurate collection of time. Each course is given a recommended *Study Hours* by the sponsor that estimate how much time a student should spend on the coursework in order to fully achieve the desired learning objectives. Currently, there is no way to verify if the recommended *Study Hours* are accurate since the time that a student is actively participating in the course is not being captured accurately. The time that a student actually needed to complete the course successfully would be very insightful for decision makers. For example, MarineNet could then verify that the recommended time of a course was accurate and make the necessary adjustments to the course if needed. If a course on average took more or less time than the recommended time, then further analysis could be conducted into the root cause of the disparity. If a course actually took twice as long to complete then intended than perhaps the concepts were not presented properly or the materials were more complex than originally intended. Alternately if the average time to complete the course was half as long as expected than perhaps the complexity was overestimated or the course enabled the student to simply click through the course until completion without achieving the learning objective. Either way, the completion time would enable a much more detailed understanding of course performance.

Furthermore, the time collection should go beyond the simple active completion time and be expanded to include the time needed to complete each course screenshot. This level of detail when combined with a large sample size could facilitate quick identification of problem areas, course activities that are cumbersome or other problem activities that may be the source of the time disparity. The collection of this information could help MarineNet enter into the growing fields of Educational Data Mining (EDM) and Learning Analytics (LA). EDM is part of LA and is defined as the collection of

various forms of student generated data and using computer models to detect trends or patterns in large datasets. Examples of EDM include the number of clicks that a student executes on a screenshot, how many times a student interacted with a screen object, or the amount of time that a student needed to complete a single activity on a screen. EDM software would be utilized to identify very precise patterns in student behavior that would otherwise be lost in a sea of data. LA is a much more complex field that utilizes the student data to build computer models of student behavior. Alternately the data can be applied to pre-existing models of human learning and behavior in order to predict future student behavior and optimize learning activities (Vahdat et al., 2015). The appropriate application of EDM and LA tools into the MarineNet learning management system could potentially provide decision makers with powerful information on the DE program. When a negative pattern is identified in a course, this information would enable targeted corrections, better cost estimates for course improvements, and the ability to provide critical information to students on potential course problems and the proper way to navigate these problems. EDM and LA would also provide information on how Marines learn in an online environment since the experience of Marine Corps DE is very different than civilian higher education. With this knowledge, future courses could be engineered to incorporate the newly discovered best practices that optimize Marine learning while avoiding course activities that negatively impact learning. The inclusion of EDM and LA into the MarineNet DE program would increase the quality of the data and thereby provide more value to decision makers and students alike.

The second recommendation for improvement is to categorize each course by the level of interaction required to complete the course and include the interactivity in the life cycle data analytics. The historical definition of interaction generally involves the communication between the student and the instructor (Parker, 1999); however, the definition has been expanded to include modern technologies. Wagner (1994) defined interaction as, “reciprocal events that require at least two objects and two actions and interactions occur when events mutually influence each other.” This definition encompasses the range of interaction without limiting the scope (Anderson, 2003, p. 130). The Department of Defense has a very similar definition of interactivity as “acting

or capable of acting on each other. A two-way communication in which stimuli/response is direct and continual” (Department of Defense, 2001a). Within the broad definition of interaction, there are three subtypes, originally proposed by Michael Moore in 1989 that has been heavily supported by the literature; Student-Instructor (SI) interaction, Student-Student (SS) interaction, and Student-Content (SC) interaction. SI interaction is the traditional scholastic interaction between the student and the subject matter expert filling the instructor role (Moore, 1989). SS interaction is the collective interaction between two or more students through individual initiative or assigned group coursework (Moore, 1989). The final subgroup SC interaction is the most relevant to DE because it is the interaction between the student and the educational content. SC interaction can include traditional text materials, audio/video resources, and any software enabled interaction that facilitate student understanding (Moore, 1989).

Under the Constructivist theory of learning, a student develops knowledge by interacting with their environment (Su, Bonk, Magjuka, Liu, & Lee, 2005). Students are active participants in the learning process and knowledge is obtained through interactive tasks (Zhang, 2005). Therefore, there is a general consensus in the literature that interaction is absolutely essential to the learning process in all forms of education (Parker, 1999; Anderson, 2003). Similarly, when technology is used to provide education, the research overwhelmingly supports the notion that interaction is a critical component (Bates in Foley, 2003). Among the reasons for the criticality of interaction in education is that it can aid the process of learning by providing the student with new knowledge, trigger a reconfiguration of existing knowledge, or encourage the student to realize that further understanding is required (Parker, 1999).

The appropriate application of interaction (SI, SS, SC) in DE has been shown to positively affect student learning (Bernard et al., 2009). More specifically, an educational experience that contains a high level of any, multiple, or all of the types of interaction (SI, SS, and SC) will promote deep and meaningful learning (Anderson, 2003). A meta-analysis conducted by Bernard et al. (2009), found that higher levels of interaction (all types) were correlated with higher student achievement scores when compared to scores from courses that had lower levels of interaction.

For MarineNet courses, the level of interactivity in a course is determined by the importance of the course material, budgetary restrictions, course development timeline, the life cycle of the course, the bandwidth requirements, and the size of the target course audience (Brown, 2014). During the course design process, the level of interactivity is a joint decision between MarineNet and the course sponsors. Each course is not limited to only one type of interaction and it is possible for a course to contain multiple modules with varying levels of interaction. There are four levels of interactivity used by MarineNet in the course design; Passive, Limited Participation, Complex Participation, and Real Time participation. The interaction types along with a brief description of each are included in Table 14.

Table 14. Interaction Levels. Source: DOD (2001b), Brown (2014).

Level 1 - Passive.	The student acts solely as a receiver of information.
Level 2 - Limited participation.	The student makes simple responses to instructional cues.
Level 3 - Complex participation.	The student makes a variety of responses using varied techniques in response to instructional cues.
Level 4 - Real-time participation.	The student is directly involved in a life-like set of complex cues and responses.

Once the course design process is complete and the course is activated for student use, there is no more tracking of the interactivity regardless of what level of interactivity was built into the course. All of the courses are combined together and treated equally without regard to this important variable. Since the research unequivocally supports the importance of interactivity in the learning process, MarineNet is missing an important opportunity to compare the performance of various interactivity types among its vast course catalog. Not only will this information determine if the return on investment is worth the added expense for higher interactive course creation, but will also contribute valuable insights into how Marine or civilian performance is affected by interactivity. Another insight that could be garnered from this data is determining the appropriate level of interactivity for the subject matter since the research suggests that interaction is not a one size fits all approach. Each learning experience should be customized with the

appropriate level and type of interaction that will best support effective learning based on the empirical data.

D. FUTURE RESEARCH

The majority of literature on DE is focused primarily on higher education and as this thesis has demonstrated the results of the academic research cannot be applied directly to the military. There is very little research that focuses specifically on the military even though billions of tax dollars are spent on DE programs within the DOD. Therefore, any research that is targeted to the military DE program will contribute greatly to the body of knowledge. For the Marine Corps DE program, there is a very little research in this field even though the MarineNet database is immense. With over 16 years of data collection for thousands of courses and millions of student data instances, the research opportunities are enormous. Building on this research, future study could focus on survey or interview data to explore student motivation on an individual level. In Addition, other theories of human learning as it is applied to MarineNet could be explored. Topics could include student-content interaction, cognitive load, and the effect of prior knowledge on MarineNet performance. Finally, the student population could be separated into categories of rank, educational background, and technology familiarity for performance comparison.

APPENDIX A. PROJECT CODE 1 COURSE LIST

Couse Name	Course Code
DOD Commanding Officers Domestic Violence Training	35IMVOHV10
IMVOC HMMWV Preventive Maintenance Checks and Services	35IMVOHV20
Operating the MK-Series Vehicle Under Unusual Conditions	35IMVOHV30
Operating the MK-Series Vehicle Under Usual Conditions	35IMVOHV40
Operating the MK-Series Vehicle Off-Road	35IMVOHV50
Survivor Benefit Plan (SBP) for Retirees	35IMVOMK10
IMVOC HMMWV Operation Under Usual Conditions	35IMVOMK20
Introduction to the MK-Series Vehicle	35IMVOMK30
Suicide Prevention Program Officer	35IMVOMK40
IMVOC HMMWV Operator Maintenance Tasks	DADTTIER3Z
IMVOC HMMWV Operation Under Unusual Conditions	DD01AO0000
Driving for Life	DD01AP
Foreign Disclosure - Introductory Training	DD01RE0000
IMVOC HMMWV Introduction to the M-Series Vehicle	DD03DV
Joint Anti-Terrorism Level 1	DI5101E000
Repeal of Don't Ask, Don't Tell (DADT) Tier 3 Service Member Training and Education Brief	DISAPHI
Combating Trafficking in Persons (CTIP) General Awareness Training	DODCAC1000
Combating Trafficking in Persons (CTIP) General Awareness Refresher Training	DODPUR0001
Phishing	DONPII010A
Privileged User IA Responsibilities	FDO1INTR01
Violence Prevention (VP) Program Awareness	ILEVPPA01A
Portable Electronic Devices and Removable Storage Media	INTELPED01
MC Records Management Course: Every Marine's Responsibility	JATLV10000
Uncle Sam's OPSEC	M01RMT0700
Semper Fit: Sexual Health	MFCSPPO001
Semper Fit: Tobacco Cessation	OPSECUS001
Combating Trafficking in Persons (CTIP) Leadership Training	SBPOT
DOD Cyber Awareness Challenge	SFSXHEALTH
USMC Personally Identifiable Information (PII) Annual Training	SFTOBCESS0

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B. PROJECT CODE 2 COURSE LIST

Course Name	Course Code
EWSDEP 8661 Warfighting Self Study	8661
EWS: Operation Plans and Orders	CC01AO0000
EWS: Task Organization	CC02AO0000
EWS: Graphic and Airspace Control Measures	CC03AO0000
RCLF Arabian Gulf Enlisted Block 3 Module 01	CLRE3AG01A
RCLF Arabian Gulf Enlisted Block 3 Module 02	CLRE3AG02A
RCLF Arabian Gulf Enlisted Block 3 Module 03	CLRE3AG03A
RCLF Arabian Gulf Enlisted Block 3 Module 04	CLRE3AG04A
RCLF Arabian Gulf Enlisted Block 3 Module 05	CLRE3AG05A
RCLF Arabian Gulf Enlisted Block 3 Module 06	CLRE3AG06A
RCLF Arabian Gulf Enlisted Block 3 Module 07	CLRE3AG07A
RCLF Arabian Gulf Enlisted Block 3 Module 08	CLRE3AG08A
RCLF Arabian Gulf Enlisted Block 3 Module 09	CLRE3AG09A
RCLF Arabian Gulf Enlisted Block 3 Module 10	CLRE3AG10A
RCLF Arabian Gulf Enlisted Block 3 Module 11	CLRE3AG11A
RCLF Arabian Gulf Enlisted Block 3 Module 12	CLRE3AG12A
RCLF Arabian Gulf Enlisted Block 3 Module 13	CLRE3AG13A
RCLF Balkans Enlisted Block 3 Module 01	CLRE3BK01A
RCLF Balkans Enlisted Block 3 Module 02	CLRE3BK02A
RCLF Balkans Enlisted Block 3 Module 03	CLRE3BK03A
RCLF Balkans Enlisted Block 3 Module 04	CLRE3BK04A
RCLF Balkans Enlisted Block 3 Module 05	CLRE3BK05A
RCLF Balkans Enlisted Block 3 Module 06	CLRE3BK06A
RCLF Balkans Enlisted Block 3 Module 07	CLRE3BK07A
RCLF Balkans Enlisted Block 3 Module 08	CLRE3BK08A
RCLF Balkans Enlisted Block 3 Module 09	CLRE3BK09A
RCLF Balkans Enlisted Block 3 Module 10	CLRE3BK10A
RCLF Balkans Enlisted Block 3 Module 11	CLRE3BK11A
RCLF Balkans Enlisted Block 3 Module 12	CLRE3BK12A
RCLF Balkans Enlisted Block 3 Module 13	CLRE3BK13A
RCLF Central Africa Enlisted Block 3 Module 01	CLRE3CF01A
RCLF Central Africa Enlisted Block 3 Module 02	CLRE3CF02A
RCLF Central Africa Enlisted Block 3 Module 03	CLRE3CF03A
RCLF Central Africa Enlisted Block 3 Module 04	CLRE3CF04A
RCLF Central Africa Enlisted Block 3 Module 05	CLRE3CF05A
RCLF Central Africa Enlisted Block 3 Module 06	CLRE3CF06A
RCLF Central Africa Enlisted Block 3 Module 07	CLRE3CF07A
RCLF Central Africa Enlisted Block 3 Module 08	CLRE3CF08A
RCLF Central Africa Enlisted Block 3 Module 09	CLRE3CF09A
RCLF Central Africa Enlisted Block 3 Module 10	CLRE3CF10A
RCLF Central Africa Enlisted Block 3 Module 11	CLRE3CF11A

Course Name	Course Code
RCLF Central Africa Enlisted Block 3 Module 12	CLRE3CF12A
RCLF Central Africa Enlisted Block 3 Module 13	CLRE3CF13A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 01	CLRE3CM01A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 02	CLRE3CM02A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 03	CLRE3CM03A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 04	CLRE3CM04A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 05	CLRE3CM05A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 06	CLRE3CM06A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 07	CLRE3CM07A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 08	CLRE3CM08A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 09	CLRE3CM09A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 10	CLRE3CM10A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 11	CLRE3CM11A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 12	CLRE3CM12A
RCLF Mexico, Central America, & Caribbean Enlisted Block 3 Module 13	CLRE3CM13A
RCLF Central Asia Enlisted Block 3 Module 01	CLRE3CS01A
RCLF Central Asia Enlisted Block 3 Module 02	CLRE3CS02A
RCLF Central Asia Enlisted Block 3 Module 03	CLRE3CS03A
RCLF Central Asia Enlisted Block 3 Module 04	CLRE3CS04A
RCLF Central Asia Enlisted Block 3 Module 05	CLRE3CS05A
RCLF Central Asia Enlisted Block 3 Module 06	CLRE3CS06A
RCLF Central Asia Enlisted Block 3 Module 07	CLRE3CS07A
RCLF Central Asia Enlisted Block 3 Module 08	CLRE3CS08A
RCLF Central Asia Enlisted Block 3 Module 09	CLRE3CS09A
RCLF Central Asia Enlisted Block 3 Module 10	CLRE3CS10A
RCLF Central Asia Enlisted Block 3 Module 11	CLRE3CS11A
RCLF Central Asia Enlisted Block 3 Module 12	CLRE3CS12A
RCLF Central Asia Enlisted Block 3 Module 13	CLRE3CS13A
RCLF Eastern Africa Enlisted Block 3 Module 01	CLRE3EF01A
RCLF Eastern Africa Enlisted Block 3 Module 02	CLRE3EF02A
RCLF Eastern Africa Enlisted Block 3 Module 03	CLRE3EF03A
RCLF Eastern Africa Enlisted Block 3 Module 04	CLRE3EF04A
RCLF Eastern Africa Enlisted Block 3 Module 05	CLRE3EF05A
RCLF Eastern Africa Enlisted Block 3 Module 06	CLRE3EF06A
RCLF Eastern Africa Enlisted Block 3 Module 07	CLRE3EF07A
RCLF Eastern Africa Enlisted Block 3 Module 08	CLRE3EF08A
RCLF Eastern Africa Enlisted Block 3 Module 09	CLRE3EF09A
RCLF Eastern Africa Enlisted Block 3 Module 10	CLRE3EF10A
RCLF Eastern Africa Enlisted Block 3 Module 11	CLRE3EF11A
RCLF Eastern Africa Enlisted Block 3 Module 12	CLRE3EF12A
RCLF Eastern Africa Enlisted Block 3 Module 13	CLRE3EF13A
RCLF Levant Enlisted Block 3 Module 01	CLRE3LV01A
RCLF Levant Enlisted Block 3 Module 02	CLRE3LV02A
RCLF Levant Enlisted Block 3 Module 03	CLRE3LV03A
RCLF Levant Enlisted Block 3 Module 04	CLRE3LV04A

Course Name	Course Code
RCLF Levant Enlisted Block 3 Module 05	CLRE3LV05A
RCLF Levant Enlisted Block 3 Module 06	CLRE3LV06A
RCLF Levant Enlisted Block 3 Module 07	CLRE3LV07A
RCLF Levant Enlisted Block 3 Module 08	CLRE3LV08A
RCLF Levant Enlisted Block 3 Module 09	CLRE3LV09A
RCLF Levant Enlisted Block 3 Module 10	CLRE3LV10A
RCLF Levant Enlisted Block 3 Module 11	CLRE3LV11A
RCLF Levant Enlisted Block 3 Module 12	CLRE3LV12A
RCLF Levant Enlisted Block 3 Module 13	CLRE3LV13A
RCLF North Africa Enlisted Block 3 Module 01	CLRE3NF01A
RCLF North Africa Enlisted Block 3 Module 02	CLRE3NF02A
RCLF North Africa Enlisted Block 3 Module 03	CLRE3NF03A
RCLF North Africa Enlisted Block 3 Module 04	CLRE3NF04A
RCLF North Africa Enlisted Block 3 Module 05	CLRE3NF05A
RCLF North Africa Enlisted Block 3 Module 06	CLRE3NF06A
RCLF North Africa Enlisted Block 3 Module 07	CLRE3NF07A
RCLF North Africa Enlisted Block 3 Module 08	CLRE3NF08A
RCLF North Africa Enlisted Block 3 Module 09	CLRE3NF09A
RCLF North Africa Enlisted Block 3 Module 10	CLRE3NF10A
RCLF North Africa Enlisted Block 3 Module 11	CLRE3NF11A
RCLF North Africa Enlisted Block 3 Module 12	CLRE3NF12A
RCLF North Africa Enlisted Block 3 Module 13	CLRE3NF13A
RCLF Northeast Asia Enlisted Block 3 Module 01	CLRE3NS01A
RCLF Northeast Asia Enlisted Block 3 Module 02	CLRE3NS02A
RCLF Northeast Asia Enlisted Block 3 Module 03	CLRE3NS03A
RCLF Northeast Asia Enlisted Block 3 Module 04	CLRE3NS04A
RCLF Northeast Asia Enlisted Block 3 Module 05	CLRE3NS05A
RCLF Northeast Asia Enlisted Block 3 Module 06	CLRE3NS06A
RCLF Northeast Asia Enlisted Block 3 Module 07	CLRE3NS07A
RCLF Northeast Asia Enlisted Block 3 Module 08	CLRE3NS08A
RCLF Northeast Asia Enlisted Block 3 Module 09	CLRE3NS09A
RCLF Northeast Asia Enlisted Block 3 Module 10	CLRE3NS10A
RCLF Northeast Asia Enlisted Block 3 Module 11	CLRE3NS11A
RCLF Northeast Asia Enlisted Block 3 Module 12	CLRE3NS12A
RCLF Northeast Asia Enlisted Block 3 Module 13	CLRE3NS13A
RCLF Southeast Asia Enlisted Block 3 Module 01	CLRE3SE01A
RCLF Southeast Asia Enlisted Block 3 Module 02	CLRE3SE02A
RCLF Southeast Asia Enlisted Block 3 Module 03	CLRE3SE03A
RCLF Southeast Asia Enlisted Block 3 Module 04	CLRE3SE04A
RCLF Southeast Asia Enlisted Block 3 Module 05	CLRE3SE05A
RCLF Southeast Asia Enlisted Block 3 Module 06	CLRE3SE06A
RCLF Southeast Asia Enlisted Block 3 Module 07	CLRE3SE07A
RCLF Southeast Asia Enlisted Block 3 Module 08	CLRE3SE08A
RCLF Southeast Asia Enlisted Block 3 Module 09	CLRE3SE09A
RCLF Southeast Asia Enlisted Block 3 Module 10	CLRE3SE10A

Course Name	Course Code
RCLF Southeast Asia Enlisted Block 3 Module 11	CLRE3SE11A
RCLF Southeast Asia Enlisted Block 3 Module 12	CLRE3SE12A
RCLF Southeast Asia Enlisted Block 3 Module 13	CLRE3SE13A
RCLF Southern Africa Enlisted Block 3 Module 01	CLRE3SF01A
RCLF Southern Africa Enlisted Block 3 Module 02	CLRE3SF02A
RCLF Southern Africa Enlisted Block 3 Module 03	CLRE3SF03A
RCLF Southern Africa Enlisted Block 3 Module 04	CLRE3SF04A
RCLF Southern Africa Enlisted Block 3 Module 05	CLRE3SF05A
RCLF Southern Africa Enlisted Block 3 Module 06	CLRE3SF06A
RCLF Southern Africa Enlisted Block 3 Module 07	CLRE3SF07A
RCLF Southern Africa Enlisted Block 3 Module 08	CLRE3SF08A
RCLF Southern Africa Enlisted Block 3 Module 09	CLRE3SF09A
RCLF Southern Africa Enlisted Block 3 Module 10	CLRE3SF10A
RCLF Southern Africa Enlisted Block 3 Module 11	CLRE3SF11A
RCLF Southern Africa Enlisted Block 3 Module 12	CLRE3SF12A
RCLF Southern Africa Enlisted Block 3 Module 13	CLRE3SF13A
RCLF Sahel Enlisted Block 3 Module 01	CLRE3SH01A
RCLF Sahel Enlisted Block 3 Module 02	CLRE3SH02A
RCLF Sahel Enlisted Block 3 Module 03	CLRE3SH03A
RCLF Sahel Enlisted Block 3 Module 04	CLRE3SH04A
RCLF Sahel Enlisted Block 3 Module 05	CLRE3SH05A
RCLF Sahel Enlisted Block 3 Module 06	CLRE3SH06A
RCLF Sahel Enlisted Block 3 Module 07	CLRE3SH07A
RCLF Sahel Enlisted Block 3 Module 08	CLRE3SH08A
RCLF Sahel Enlisted Block 3 Module 09	CLRE3SH09A
RCLF Sahel Enlisted Block 3 Module 10	CLRE3SH10A
RCLF Sahel Enlisted Block 3 Module 11	CLRE3SH11A
RCLF Sahel Enlisted Block 3 Module 12	CLRE3SH12A
RCLF Sahel Enlisted Block 3 Module 13	CLRE3SH13A
RCLF South America Enlisted Block 3 Module 01	CLRE3SM01A
RCLF South America Enlisted Block 3 Module 02	CLRE3SM02A
RCLF South America Enlisted Block 3 Module 03	CLRE3SM03A
RCLF South America Enlisted Block 3 Module 04	CLRE3SM04A
RCLF South America Enlisted Block 3 Module 05	CLRE3SM05A
RCLF South America Enlisted Block 3 Module 06	CLRE3SM06A
RCLF South America Enlisted Block 3 Module 07	CLRE3SM07A
RCLF South America Enlisted Block 3 Module 08	CLRE3SM08A
RCLF South America Enlisted Block 3 Module 09	CLRE3SM09A
RCLF South America Enlisted Block 3 Module 10	CLRE3SM10A
RCLF South America Enlisted Block 3 Module 11	CLRE3SM11A
RCLF South America Enlisted Block 3 Module 12	CLRE3SM12A
RCLF South America Enlisted Block 3 Module 13	CLRE3SM13A
RCLF South Asia Enlisted Block 3 Module 01	CLRE3SS01A
RCLF South Asia Enlisted Block 3 Module 02	CLRE3SS02A
RCLF South Asia Enlisted Block 3 Module 03	CLRE3SS03A

Course Name	Course Code
RCLF South Asia Enlisted Block 3 Module 04	CLRE3SS04A
RCLF South Asia Enlisted Block 3 Module 05	CLRE3SS05A
RCLF South Asia Enlisted Block 3 Module 06	CLRE3SS06A
RCLF South Asia Enlisted Block 3 Module 07	CLRE3SS07A
RCLF South Asia Enlisted Block 3 Module 08	CLRE3SS08A
RCLF South Asia Enlisted Block 3 Module 09	CLRE3SS09A
RCLF South Asia Enlisted Block 3 Module 10	CLRE3SS10A
RCLF South Asia Enlisted Block 3 Module 11	CLRE3SS11A
RCLF South Asia Enlisted Block 3 Module 12	CLRE3SS12A
RCLF South Asia Enlisted Block 3 Module 13	CLRE3SS13A
RCLF Transcaucasus Enlisted Block 3 Module 01	CLRE3TC01A
RCLF Transcaucasus Enlisted Block 3 Module 02	CLRE3TC02A
RCLF Transcaucasus Enlisted Block 3 Module 03	CLRE3TC03A
RCLF Transcaucasus Enlisted Block 3 Module 04	CLRE3TC04A
RCLF Transcaucasus Enlisted Block 3 Module 05	CLRE3TC05A
RCLF Transcaucasus Enlisted Block 3 Module 06	CLRE3TC06A
RCLF Transcaucasus Enlisted Block 3 Module 07	CLRE3TC07A
RCLF Transcaucasus Enlisted Block 3 Module 08	CLRE3TC08A
RCLF Transcaucasus Enlisted Block 3 Module 09	CLRE3TC09A
RCLF Transcaucasus Enlisted Block 3 Module 10	CLRE3TC10A
RCLF Transcaucasus Enlisted Block 3 Module 11	CLRE3TC11A
RCLF Transcaucasus Enlisted Block 3 Module 12	CLRE3TC12A
RCLF Transcaucasus Enlisted Block 3 Module 13	CLRE3TC13A
RCLF West Africa Enlisted Block 3 Module 01	CLRE3WF01A
RCLF West Africa Enlisted Block 3 Module 02	CLRE3WF02A
RCLF West Africa Enlisted Block 3 Module 03	CLRE3WF03A
RCLF West Africa Enlisted Block 3 Module 04	CLRE3WF04A
RCLF West Africa Enlisted Block 3 Module 05	CLRE3WF05A
RCLF West Africa Enlisted Block 3 Module 06	CLRE3WF06A
RCLF West Africa Enlisted Block 3 Module 07	CLRE3WF07A
RCLF West Africa Enlisted Block 3 Module 08	CLRE3WF08A
RCLF West Africa Enlisted Block 3 Module 09	CLRE3WF09A
RCLF West Africa Enlisted Block 3 Module 10	CLRE3WF10A
RCLF West Africa Enlisted Block 3 Module 11	CLRE3WF11A
RCLF West Africa Enlisted Block 3 Module 12	CLRE3WF12A
RCLF West Africa Enlisted Block 3 Module 13	CLRE3WF13A
RCLF West South Asia Enlisted Block 3 Module 01	CLRE3WS01A
RCLF West South Asia Enlisted Block 3 Module 02	CLRE3WS02A
RCLF West South Asia Enlisted Block 3 Module 03	CLRE3WS03A
RCLF West South Asia Enlisted Block 3 Module 04	CLRE3WS04A
RCLF West South Asia Enlisted Block 3 Module 05	CLRE3WS05A
RCLF West South Asia Enlisted Block 3 Module 06	CLRE3WS06A
RCLF West South Asia Enlisted Block 3 Module 07	CLRE3WS07A
RCLF West South Asia Enlisted Block 3 Module 08	CLRE3WS08A
RCLF West South Asia Enlisted Block 3 Module 09	CLRE3WS09A

Course Name	Course Code
RCLF West South Asia Enlisted Block 3 Module 10	CLRE3WS10A
RCLF West South Asia Enlisted Block 3 Module 11	CLRE3WS11A
RCLF West South Asia Enlisted Block 3 Module 12	CLRE3WS12A
RCLF West South Asia Enlisted Block 3 Module 13	CLRE3WS13A
RCLF Enlisted Block 4 Arabian Peninsula and Gulf Region	CLRE4AG01A
RCLF Enlisted Block 4 The Balkans Region	CLRE4BK01A
RCLF Enlisted Block 4 Central America and Caribbean Region	CLRE4CM01A
RCLF Enlisted Block 4 Central Asia Region	CLRE4CS01A
RCLF Enlisted Block 4 The Levant Region	CLRE4LV01A
RCLF Enlisted Block 4 North Africa Region	CLRE4NF01A
RCLF Enlisted Block 4 Northeast Asia Region	CLRE4NS01A
RCLF Enlisted Block 4 Southeast Asia Region	CLRE4SE01A
RCLF Enlisted Block 4 The Sahel Region	CLRE4SH01A
RCLF Enlisted Block 4 South America Region	CLRE4SM01A
RCLF Enlisted Block 4 South Asia Region	CLRE4SS01A
RCLF Enlisted Block 4 Trans-Caucasus Region	CLRE4TC01A
RCLF Enlisted Block 4 West Africa Region	CLRE4WF01A
RCLF Arabian Gulf Micro-Region Module 01	CLRO2AG01A
RCLF Arabian Gulf Micro-Region Module 02	CLRO2AG02A
RCLF Arabian Gulf Micro-Region Module 03	CLRO2AG03A
RCLF Arabian Gulf Micro-Region Module 04	CLRO2AG04A
RCLF Arabian Gulf Micro-Region Module 05	CLRO2AG05A
RCLF Arabian Gulf Micro-Region Module 06	CLRO2AG06A
RCLF Arabian Gulf Micro-Region Module 07	CLRO2AG07A
RCLF Arabian Gulf Micro-Region Module 08	CLRO2AG08A
RCLF Arabian Gulf Micro-Region Module 09	CLRO2AG09A
RCLF Arabian Gulf Micro-Region Module 10	CLRO2AG10A
RCLF Arabian Gulf Micro-Region Module 11	CLRO2AG11A
RCLF Arabian Gulf Micro-Region Module 12	CLRO2AG12A
RCLF Balkans Micro-Region Module 01	CLRO2BK01A
RCLF Balkans Micro-Region Module 02	CLRO2BK02A
RCLF Balkans Micro-Region Module 03	CLRO2BK03A
RCLF Balkans Micro-Region Module 04	CLRO2BK04A
RCLF Balkans Micro-Region Module 05	CLRO2BK05A
RCLF Balkans Micro-Region Module 06	CLRO2BK06A
RCLF Balkans Micro-Region Module 07	CLRO2BK07A
RCLF Balkans Micro-Region Module 08	CLRO2BK08A
RCLF Balkans Micro-Region Module 09	CLRO2BK09A
RCLF Balkans Micro-Region Module 10	CLRO2BK10A
RCLF Balkans Micro-Region Module 11	CLRO2BK11A
RCLF Balkans Micro-Region Module 12	CLRO2BK12A
RCLF Central Africa Micro-Region Module 01	CLRO2CF01A
RCLF Central Africa Micro-Region Module 02	CLRO2CF02A
RCLF Central Africa Micro-Region Module 03	CLRO2CF03A
RCLF Central Africa Micro-Region Module 04	CLRO2CF04A

Course Name	Course Code
RCLF Central Africa Micro-Region Module 05	CLRO2CF05A
RCLF Central Africa Micro-Region Module 06	CLRO2CF06A
RCLF Central Africa Micro-Region Module 07	CLRO2CF07A
RCLF Central Africa Micro-Region Module 08	CLRO2CF08A
RCLF Central Africa Micro-Region Module 09	CLRO2CF09A
RCLF Central Africa Micro-Region Module 10	CLRO2CF10A
RCLF Central Africa Micro-Region Module 11	CLRO2CF11A
RCLF Central Africa Micro-Region Module 12	CLRO2CF12A
RCLF MCAC Micro-Region Module 01	CLRO2CM01A
RCLF MCAC Micro-Region Module 02	CLRO2CM02A
RCLF MCAC Micro-Region Module 03	CLRO2CM03A
RCLF MCAC Micro-Region Module 04	CLRO2CM04A
RCLF MCAC Micro-Region Module 05	CLRO2CM05A
RCLF MCAC Micro-Region Module 06	CLRO2CM06A
RCLF MCAC Micro-Region Module 07	CLRO2CM07A
RCLF MCAC Micro-Region Module 08	CLRO2CM08A
RCLF MCAC Micro-Region Module 09	CLRO2CM09A
RCLF MCAC Micro-Region Module 10	CLRO2CM10A
RCLF MCAC Micro-Region Module 11	CLRO2CM11A
RCLF MCAC Micro-Region Module 12	CLRO2CM12A
RCLF Central Asia Micro-Region Module 01	CLRO2CS01A
RCLF Central Asia Micro-Region Module 02	CLRO2CS02A
RCLF Central Asia Micro-Region Module 03	CLRO2CS03A
RCLF Central Asia Micro-Region Module 04	CLRO2CS04A
RCLF Central Asia Micro-Region Module 05	CLRO2CS05A
RCLF Central Asia Micro-Region Module 06	CLRO2CS06A
RCLF Central Asia Micro-Region Module 07	CLRO2CS07A
RCLF Central Asia Micro-Region Module 08	CLRO2CS08A
RCLF Central Asia Micro-Region Module 09	CLRO2CS09A
RCLF Central Asia Micro-Region Module 10	CLRO2CS10A
RCLF Central Asia Micro-Region Module 11	CLRO2CS11A
RCLF Central Asia Micro-Region Module 12	CLRO2CS12A
RCLF Eastern Africa Micro-Region Module 01	CLRO2EF01A
RCLF Eastern Africa Micro-Region Module 02	CLRO2EF02A
RCLF Eastern Africa Micro-Region Module 03	CLRO2EF03A
RCLF Eastern Africa Micro-Region Module 04	CLRO2EF04A
RCLF Eastern Africa Micro-Region Module 05	CLRO2EF05A
RCLF Eastern Africa Micro-Region Module 06	CLRO2EF06A
RCLF Eastern Africa Micro-Region Module 07	CLRO2EF07A
RCLF Eastern Africa Micro-Region Module 08	CLRO2EF08A
RCLF Eastern Africa Micro-Region Module 09	CLRO2EF09A
RCLF Eastern Africa Micro-Region Module 10	CLRO2EF10A
RCLF Eastern Africa Micro-Region Module 11	CLRO2EF11A
RCLF Eastern Africa Micro-Region Module 12	CLRO2EF12A
RCLF The Levant Micro-Region Module 01	CLRO2LV01A

Course Name	Course Code
RCLF The Levant Micro-Region Module 02	CLRO2LV02A
RCLF The Levant Micro-Region Module 03	CLRO2LV03A
RCLF The Levant Micro-Region Module 04	CLRO2LV04A
RCLF The Levant Micro-Region Module 05	CLRO2LV05A
RCLF The Levant Micro-Region Module 06	CLRO2LV06A
RCLF The Levant Micro-Region Module 07	CLRO2LV07A
RCLF The Levant Micro-Region Module 08	CLRO2LV08A
RCLF The Levant Micro-Region Module 09	CLRO2LV09A
RCLF The Levant Micro-Region Module 10	CLRO2LV10A
RCLF The Levant Micro-Region Module 11	CLRO2LV11A
RCLF The Levant Micro-Region Module 12	CLRO2LV12A
RCLF North Africa Micro-Region Module 01	CLRO2NF01A
RCLF North Africa Micro-Region Module 02	CLRO2NF02A
RCLF North Africa Micro-Region Module 03	CLRO2NF03A
RCLF North Africa Micro-Region Module 04	CLRO2NF04A
RCLF North Africa Micro-Region Module 05	CLRO2NF05A
RCLF North Africa Micro-Region Module 06	CLRO2NF06A
RCLF North Africa Micro-Region Module 07	CLRO2NF07A
RCLF North Africa Micro-Region Module 08	CLRO2NF08A
RCLF North Africa Micro-Region Module 09	CLRO2NF09A
RCLF North Africa Micro-Region Module 10	CLRO2NF10A
RCLF North Africa Micro-Region Module 11	CLRO2NF11A
RCLF North Africa Micro-Region Module 12	CLRO2NF12A
RCLF Northeast Asia Micro-Region Module 01	CLRO2NS01A
RCLF Northeast Asia Micro-Region Module 02	CLRO2NS02A
RCLF Northeast Asia Micro-Region Module 03	CLRO2NS03A
RCLF Northeast Asia Micro-Region Module 04	CLRO2NS04A
RCLF Northeast Asia Micro-Region Module 05	CLRO2NS05A
RCLF Northeast Asia Micro-Region Module 06	CLRO2NS06A
RCLF Northeast Asia Micro-Region Module 07	CLRO2NS07A
RCLF Northeast Asia Micro-Region Module 08	CLRO2NS08A
RCLF Northeast Asia Micro-Region Module 09	CLRO2NS09A
RCLF Northeast Asia Micro-Region Module 10	CLRO2NS10A
RCLF Northeast Asia Micro-Region Module 11	CLRO2NS11A
RCLF Northeast Asia Micro-Region Module 12	CLRO2NS12A
RCLF Southeast Asia Micro-Region Module 01	CLRO2SE01A
RCLF Southeast Asia Micro-Region Module 02	CLRO2SE02A
RCLF Southeast Asia Micro-Region Module 03	CLRO2SE03A
RCLF Southeast Asia Micro-Region Module 04	CLRO2SE04A
RCLF Southeast Asia Micro-Region Module 05	CLRO2SE05A
RCLF Southeast Asia Micro-Region Module 06	CLRO2SE06A
RCLF Southeast Asia Micro-Region Module 07	CLRO2SE07A
RCLF Southeast Asia Micro-Region Module 08	CLRO2SE08A
RCLF Southeast Asia Micro-Region Module 09	CLRO2SE09A
RCLF Southeast Asia Micro-Region Module 10	CLRO2SE10A

Course Name	Course Code
RCLF Southeast Asia Micro-Region Module 11	CLRO2SE11A
RCLF Southeast Asia Micro-Region Module 12	CLRO2SE12A
RCLF Southern Africa Micro-Region Module 01	CLRO2SF01A
RCLF Southern Africa Micro-Region Module 02	CLRO2SF02A
RCLF Southern Africa Micro-Region Module 03	CLRO2SF03A
RCLF Southern Africa Micro-Region Module 04	CLRO2SF04A
RCLF Southern Africa Micro-Region Module 05	CLRO2SF05A
RCLF Southern Africa Micro-Region Module 06	CLRO2SF06A
RCLF Southern Africa Micro-Region Module 07	CLRO2SF07A
RCLF Southern Africa Micro-Region Module 08	CLRO2SF08A
RCLF Southern Africa Micro-Region Module 09	CLRO2SF09A
RCLF Southern Africa Micro-Region Module 10	CLRO2SF10A
RCLF Southern Africa Micro-Region Module 11	CLRO2SF11A
RCLF Southern Africa Micro-Region Module 12	CLRO2SF12A
RCLF Sahel Micro-Region Module 01	CLRO2SH01A
RCLF Sahel Micro-Region Module 02	CLRO2SH02A
RCLF Sahel Micro-Region Module 03	CLRO2SH03A
RCLF Sahel Micro-Region Module 04	CLRO2SH04A
RCLF Sahel Micro-Region Module 05	CLRO2SH05A
RCLF Sahel Micro-Region Module 06	CLRO2SH06A
RCLF Sahel Micro-Region Module 07	CLRO2SH07A
RCLF Sahel Micro-Region Module 08	CLRO2SH08A
RCLF Sahel Micro-Region Module 09	CLRO2SH09A
RCLF Sahel Micro-Region Module 10	CLRO2SH10A
RCLF Sahel Micro-Region Module 11	CLRO2SH11A
RCLF Sahel Micro-Region Module 12	CLRO2SH12A
RCLF South America Micro-Region Module 01	CLRO2SM01A
RCLF South America Micro-Region Module 02	CLRO2SM02A
RCLF South America Micro-Region Module 03	CLRO2SM03A
RCLF South America Micro-Region Module 04	CLRO2SM04A
RCLF South America Micro-Region Module 05	CLRO2SM05A
RCLF South America Micro-Region Module 06	CLRO2SM06A
RCLF South America Micro-Region Module 07	CLRO2SM07A
RCLF South America Micro-Region Module 08	CLRO2SM08A
RCLF South America Micro-Region Module 09	CLRO2SM09A
RCLF South America Micro-Region Module 10	CLRO2SM10A
RCLF South America Micro-Region Module 11	CLRO2SM11A
RCLF South America Micro-Region Module 12	CLRO2SM12A
RCLF South Asia Micro-Region Module 01	CLRO2SS01A
RCLF South Asia Micro-Region Module 02	CLRO2SS02A
RCLF South Asia Micro-Region Module 03	CLRO2SS03A
RCLF South Asia Micro-Region Module 04	CLRO2SS04A
RCLF South Asia Micro-Region Module 05	CLRO2SS05A
RCLF South Asia Micro-Region Module 06	CLRO2SS06A
RCLF South Asia Micro-Region Module 07	CLRO2SS07A

Course Name	Course Code
RCLF South Asia Micro-Region Module 08	CLRO2SS08A
RCLF South Asia Micro-Region Module 09	CLRO2SS09A
RCLF South Asia Micro-Region Module 10	CLRO2SS10A
RCLF South Asia Micro-Region Module 11	CLRO2SS11A
RCLF South Asia Micro-Region Module 12	CLRO2SS12A
RCLF Transcaucasus Micro-Region Module 01	CLRO2TC01A
RCLF Transcaucasus Micro-Region Module 02	CLRO2TC02A
RCLF Transcaucasus Micro-Region Module 03	CLRO2TC03A
RCLF Transcaucasus Micro-Region Module 04	CLRO2TC04A
RCLF Transcaucasus Micro-Region Module 05	CLRO2TC05A
RCLF Transcaucasus Micro-Region Module 06	CLRO2TC06A
RCLF Transcaucasus Micro-Region Module 07	CLRO2TC07A
RCLF Transcaucasus Micro-Region Module 08	CLRO2TC08A
RCLF Transcaucasus Micro-Region Module 09	CLRO2TC09A
RCLF Transcaucasus Micro-Region Module 10	CLRO2TC10A
RCLF Transcaucasus Micro-Region Module 11	CLRO2TC11A
RCLF Transcaucasus Micro-Region Module 12	CLRO2TC12A
RCLF West Africa Micro-Region Module 01	CLRO2WF01A
RCLF West Africa Micro-Region Module 02	CLRO2WF02A
RCLF West Africa Micro-Region Module 03	CLRO2WF03A
RCLF West Africa Micro-Region Module 04	CLRO2WF04A
RCLF West Africa Micro-Region Module 05	CLRO2WF05A
RCLF West Africa Micro-Region Module 06	CLRO2WF06A
RCLF West Africa Micro-Region Module 07	CLRO2WF07A
RCLF West Africa Micro-Region Module 08	CLRO2WF08A
RCLF West Africa Micro-Region Module 09	CLRO2WF09A
RCLF West Africa Micro-Region Module 10	CLRO2WF10A
RCLF West Africa Micro-Region Module 11	CLRO2WF11A
RCLF West Africa Micro-Region Module 12	CLRO2WF12A
RCLF West South Asia Micro-Region Module 01	CLRO2WS01A
RCLF West South Asia Micro-Region Module 02	CLRO2WS02A
RCLF West South Asia Micro-Region Module 03	CLRO2WS03A
RCLF West South Asia Micro-Region Module 04	CLRO2WS04A
RCLF West South Asia Micro-Region Module 05	CLRO2WS05A
RCLF West South Asia Micro-Region Module 06	CLRO2WS06A
RCLF West South Asia Micro-Region Module 07	CLRO2WS07A
RCLF West South Asia Micro-Region Module 08	CLRO2WS08A
RCLF West South Asia Micro-Region Module 09	CLRO2WS09A
RCLF West South Asia Micro-Region Module 10	CLRO2WS10A
RCLF West South Asia Micro-Region Module 11	CLRO2WS11A
RCLF West South Asia Micro-Region Module 12	CLRO2WS12A
RCLF Arabian Gulf Block 3 Overview	CLRO3AG01A
RCLF Arabian Gulf Block 3 Study Guide	CLRO3AG02A
RCLF Arabian Gulf Block 3 Course Reading and End of Course Test	CLRO3AG03A
RCLF Balkans Block 3 Overview	CLRO3BK01A

Course Name	Course Code
RCLF Balkans Block 3 Study Guide	CLRO3BK02A
RCLF Balkans Block 3 Course Reading and End of Course Test	CLRO3BK03A
RCLF Central Africa Block 3 Overview	CLRO3CF01A
RCLF Central Africa Block 3 Study Guide	CLRO3CF02A
RCLF Central Africa Block 3 Course Reading and End of Course Test	CLRO3CF03A
RCLF MCAC Block 3 Overview	CLRO3CM01A
RCLF MCAC Block 3 Study Guide	CLRO3CM02A
RCLF MCAC Block 3 Course Reading Materials and End of Course Exam	CLRO3CM03A
RCLF Central Asia Block 3 Overview	CLRO3CS01A
RCLF Central Asia Block 3 Study Guide	CLRO3CS02A
RCLF Central Asia Block 3 Course Reading and End of Course Test	CLRO3CS03A
RCLF Eastern Africa Block 3 Overview	CLRO3EF01A
RCLF Eastern Africa Block 3 Study Guide	CLRO3EF02A
RCLF Eastern Africa Block 3 Course Reading and End of Course Test	CLRO3EF03A
RCLF The Levant Block 3 Overview	CLRO3LV01A
RCLF The Levant Block 3 Study Guide	CLRO3LV02A
RCLF The Levant Block 3 Course Reading and End of Course Test	CLRO3LV03A
RCLF North Africa Block 3 Overview	CLRO3NF01A
RCLF North Africa Block 3 Study Guide	CLRO3NF02A
RCLF North Africa Block 3 Course Reading and End of Course Test	CLRO3NF03A
RCLF Northeast Asia Block 3 Overview	CLRO3NS01A
RCLF Northeast Asia Block 3 Study Guide	CLRO3NS02A
RCLF Northeast Asia Block 3 Course Reading Materials and End of Course Exam	CLRO3NS03A
RCLF Southeast Asia Block 3 Overview	CLRO3SE01A
RCLF Southeast Asia Block 3 Study Guide	CLRO3SE02A
RCLF Southeast Asia Block 3 Course Reading Materials and End of Course Exam	CLRO3SE03A
RCLF Southern Africa Block 3 Overview	CLRO3SF01A
RCLF Southern Africa Block 3 Study Guide	CLRO3SF02A
RCLF Southern Africa Block 3 Course Reading and End of Course Test	CLRO3SF03A
RCLF Sahel Block 3 Overview	CLRO3SH01A
RCLF Sahel Block 3 Study Guide	CLRO3SH02A
RCLF Sahel Block 3 Course Reading Materials	CLRO3SH03A
RCLF South America Block 3 Overview	CLRO3SM01A
RCLF South America Block 3 Study Guide	CLRO3SM02A
RCLF South America Block 3 Course Reading Materials and End of Course Exam	CLRO3SM03A
RCLF South Asia Block 3 Overview	CLRO3SS01A
RCLF South Asia Block 3 Study Guide	CLRO3SS02A
RCLF South Asia Block 3 Course Reading and End of Course Test	CLRO3SS03A
RCLF Transcaucasus Block 3 Overview	CLRO3TC01A
RCLF Transcaucasus Block 3 Study Guide	CLRO3TC02A
RCLF Transcaucasus Block 3 Course Reading and End of Course Test	CLRO3TC03A
RCLF West Africa Block 3 Overview	CLRO3WF01A

Course Name	Course Code
RCLF West Africa Block 3 Study Guide	CLRO3WF02A
RCLF West Africa Block 3 Course Reading and End of Course Test	CLRO3WF03A
RCLF West South Asia Block 3 Overview	CLRO3WS01A
RCLF West South Asia Block 3 Study Guide	CLRO3WS02A
RCLF West South Asia Block 3 Course Reading Materials	CLRO3WS03A
RCLF Arabian Gulf Block 4 Course	CLRO4AG01A
RCLF Balkans Block 4 Course	CLRO4BK01A
RCLF Central Africa Block 4 Course	CLRO4CF01A
RCLF MCAC Block 4 Course	CLRO4CM01A
RCLF Central Asia Block 4 Course	CLRO4CS01A
RCLF Eastern Africa Block 4 Course	CLRO4EF01A
RCLF Levant Block 4 Course	CLRO4LV01A
RCLF North Africa Block 4 Course	CLRO4NF01A
RCLF Northeast Asia Block 4 Course	CLRO4NS01A
RCLF Southeast Asia Block 4 Course	CLRO4SE01A
RCLF South America Block 4 Course	CLRO4SM01A
RCLF Trans-caucasus Block 4 Course	CLRO4TC01A
RCLF West Africa Block 4 Course	CLRO4WF01A
RCLF West South Asia Block 4 Course	CLRO4WS01A
Operations Course	EPME4210AA
Offensive Operations Course	EPME4220AA
Combat Orders Course	EPME4230AA
Defensive Operations Course	EPME4240AA
Land Navigation Course	EPME4310AA
Marine NCO Course	EPME4410AA
Leadership Tools and Techniques Course	EPME4420AA
Sergeants Course Administration	EPME5110AA
Sergeants Course Communication	EPME5120AA
Sergeants Course Warfighting	EPME5210AA
Sergeants Course Squad Operations	EPME5220AA
Sergeants Course Tactical Planning	EPME5230AA
Sergeants Course Tactical Tools	EPME5240AA
Sergeants Course Training	EPME5300AA
Sergeants Course Leadership I	EPME5410AA
Sergeants Course Leadership II	EPME5420AA
Career Course Administration and Communication I	EPME6110AA
Career Course Administration and Communication II	EPME6120AA
Career Course Warfighting	EPME6210AA
Career Course Command and Control	EPME6220AA
Career Course Tactical Planning	EPME6230AA
Career Course Training	EPME6300AA

Course Name	Course Code
Career Course Leadership I	EPME6410AA
Career Course Leadership II	EPME6420AA
Advanced Course Administration	EPME7100AA
Advanced Course Training	EPME7200AA
Advanced Course Warfighting I	EPME7300AA
Advanced Course Warfighting II	EPME7310AA
Advanced Course Leadership	EPME7400AA
RCLF Arabian Gulf Module 3 SNA TESTING	RCLFAG-M03-SNA-TESTING

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C. PROJECT CODE 3 COURSE LIST

Course Name	Course Code
Manpower 1	0102MODA1A
Manpower 2	0102MODA2A
Manpower 3	0102MODA3A
Leadership 1	0102MODA4A
Leadership 2	0102MODA5A
Manpower 4	0102MODB1A
Manpower 5	0102MODB2A
Leadership 3	0102MODB3A
M240G Machine Gun	0303AO0000
Heavy Machine Gun Crewman	0368AO0000
Discuss Types of Batteries Model E	0604AO
Terminal Area Security Officer (TASO)	0688AO0000
Introduction to QoS and QoS Implementation	231228
Food Services COR/ACOR/QAE	3301AO0000
MK23 Second Echelon Maintenance: Introduction to the MK Series Vehicles	3514AO0000
MK23 Second Echelon Maintenance: Interactive Electronic Technical Manuals (IETMS)	3515AO0000
MK23 Second Echelon Maintenance: MK23 Electrical Systems	3516AO0000
MK23 Second Echelon Maintenance: Introduction to Testing Procedures	3517AO0000
MK23 Second Echelon Maintenance: MK23 Caterpillar C-12 Engine	3518AO0000
MK23 Second Echelon Maintenance: MK23 Pneumatic System	3519AO0000
MK23 Second Echelon Maintenance: MK23 Brake System	3520AO0000
MK23 Second Echelon Maintenance: MK23 CTIS Operation, Troubleshooting, and Maintenance	3521AO0000
MK23 Second Echelon Maintenance: MK23 Drive Train	3522AO0000
MK23 Second Echelon Maintenance: MK23 Chassis, Suspension, and Steering	3523AO0000
MK23 Second Echelon Maintenance: Annual PMCS Requirements	3524AO0000
M1123 Second Echelon Maintenance: M1123 Air Induction System	3525AO0000
M1123 Second Echelon Maintenance: M1123 Exhaust System	3526AO0000
M1123 Second Echelon Maintenance: M1123 Fuel System	3527AO0000
M1123 Second Echelon Maintenance: M1123 Battery, Starting, and Charging Systems	3528AO0000
M1123 Second Echelon Maintenance: M1123 Service Brake System	3529AO0000
M1123 Second Echelon Maintenance: M1123 Parking Brake System	3530AO0000
M1123 Second Echelon Maintenance: M1123 Engine Lubrication System	3531AO0000
M1123 Second Echelon Maintenance: VADS Diagnostic Procedures for the HMMWV	3532AO0000
Telecommunications Essentials	72123
IPv6	80284
Designing and Maintaining LDAP Directory Services	84923
LDAP Fundamentals	85776
JAG Command Investigation	ADMNJAGC01
Prepare Administrative Correspondence	ADMNPREC01
Process Administrative Correspondence	ADMNPROC01
Armory Management	AMC-04F

Course Name	Course Code
F83 Dual-Mass Dynamic Cone Penetrometer (DCP) training for the EAF Marine	APX34F8301
Mk 8 Mod 0 FLOLS training for the EAF Marine	APX34FLOL1
L204 Man Portable Lighting (VIPIR Lights) training for the EAF Marine	APX34VIP01
LAAW/AT-4	AT40010000
Setting up a Site and Adding Content in Dreamweaver CS5	ATDCSA01
Adding Links and Images in Dreamweaver CS5	ATDCSA02
Tables - Accessibility - and Standards in Dreamweaver CS5	ATDCSPA03
Reusing Content in Dreamweaver CS5	ATDCSPA04
Creating Interactive Web Pages in Dreamweaver CS5	ATDCSPA05
Cascading Style Sheets in Dreamweaver CS5	ATDCSPA06
Introduction to Adobe Flash Professional CS5	ATFCSPA01
Drawing and Working with Images in Flash CS5	ATFCSPA02
Using Flash CS5 Libraries - Text - and Components	ATFCSPA03
Animation in Flash CS5	ATFCSPA04
ActionScript and Multimedia in Flash CS5	ATFCSPA05
Creating Navigation and Publishing Movies in Flash CS5	ATFCSPA06
Photoshop CS5: Getting Started	ATPCSPA01
Photoshop CS5: Beyond the Basics	ATPCSPA02
Basic Communications Officer Fundamentals	BCF001
Beretta M92FS Service Pistol Overview	BER08A
Blue Force Tracking Advanced Operator Course	BFTADVANCE
Blue Force Tracking Basic Operator Course	BFTBASIC00
CBRN Individual Survival Measures	CBRNISM010
Building Layout	CE03BL0000
Drainage	CE07DR0000
Case Law and Application of Force	CL11A0
RCLF Culture 101	CLRCULT01A
Introduction to Civil-Military Operations	CMO1080000
Introduction to CA Methodology Course	CMO1090000
Introduction to CMO Core Tasks	CMO1110000
The Effective Business Meeting Simulation	COMM006A
Professionalism and Business Etiquette Simulation	COMM011A
Enhancing Your Listening Skills	COMM0154
Planning an Effective Business Meeting	COMM06A01
Leading an Effective Business Meeting	COMM06A02
Participating Effectively in a Business Meeting	COMM06A03
Standard Business Etiquette	COMM11A01
Etiquette at the Business Meeting	COMM11A03
Using Email and Instant Messaging Effectively	COMM1701
Addressing and Redistributing Email	COMM1702
Essential Skills for Professional Telephone Calls	COMM1801
Business Writing: Know Your Readers and Your Purpose	COMM1901
Business Writing: How to Write Clearly and Concisely	COMM1902
Business Writing: Editing and Proofreading	COMM1903
Business Grammar: The Mechanics of Writing	COMM2003

Course Name	Course Code
Business Grammar: Punctuation	COMM2004
Business Grammar: Sentence Construction	COMM2005
Interpersonal Communication: Communicating Assertively	COMM2104
Preparing to Communicate Effectively at the 'C' Level	COMM31A01
Techniques for Communicating Effectively with Senior Executives	COMM31A02
Preparing for Effective Business Meetings	COMM32A01
Managing Effective Business Meetings	COMM32A02
Dealing with Common Meeting Problems	COMM32A03
Basic Presentation Skills: Planning a Presentation	COMM33A01
The Impact of Situation and Style When Communicating with Diplomacy and Tact	COMM34A01
Strategies for Communicating with Tact and Diplomacy	COMM34A02
Delivering a Difficult Message with Diplomacy and Tact	COMM34A03
Community Policing	CP11A0
The Customer Service Representative (CSR)	CUST0601
Support Center Services and Work Environment	CUST0602
Team and Customer Relationships	CUST0603
Customer Interactions	CUST0701
Communication Skills	CUST0702
Conflict - Stress - and Time Management	CUST0703
Customer Service Processes and Procedures	CUST0801
Quality in a Support Center	CUST0802
Support Center Tools - Technologies and Metrics	CUST0803
Dealing with Irrational Customers and Escalating Complaints	CUST0804
Identifying and Managing Customer Expectations	CUST10A01
Creating and Sustaining a Customer-focused Organization	CUST10A02
Customer-focused Interaction	CUST10A03
F83 Dual-Mass Dynamic Cone Penetrometer (DCP) training for the EAF Marine	DCP0010000
Disaster First Aid	DFA08A
Critical Infrastructure Protection (CIP): CIP Remediation	DI5500B
Critical Infrastructure Protection (CIP): Reacting to Potential Threats	DI5500C
DOD Information Assurance Certification and Accreditation Process	DIACAP
PII Refresher – Laptop Security	DONPII1LS0
PII Refresher – Physical Security	DONPII2PS0
PII Refresher – Need to know	DONPII3NK0
PII Refresher – Closing an Office	DONPII4CO0
PII Refresher – Share Drives	DONPII5SD0
PII Refresher – Employees and Contractors	DONPII6EC0
PII Refresher – Hard Drive Disposal	DONPII7HD0
PII Refresher – Compliance Spot Checks	DONPII8SC0
PII Refresher – File Management	DONPII9FM0
VoIP Quality and Security	DTVOCEA03
Acquisition Basics for the EAF Marine	EAFACQBA1A
F87 Light Weight Matting (Mobi Mat) training for the EAF Marine	EAFMOMAT2A
V10 EAF Communications System	EAFV1001AA
Records and Forms	EEIC1300RF

Course Name	Course Code
Equipment Grounding Systems	EGS000001A
Force Deployment Planning and Execution (FDPE&E) Time Phased Force Deployment Data (TPFDD) Practical	EI060404D
Environmental Regulations Overview	ENV0101
Universal Waste Rule Training	ENV0106
Environmental Management Systems (EMS)	ESHENVA01
Food Safety and Handling	ESHAHA05
Introduction to Industrial Hygiene	ESHAHA15
Electrical Safety	ESHAHA16
PPE: Personal Protective Equipment	ESHAHA17
Lockout/Tagout	ESHAHA19
Hazardous Material Handling and Storage	ESHAHA20
Bloodborne Pathogen Awareness	ESHAHA22
Back Safety and Injury Prevention	ESHAHA23
Fire Safety and Prevention	ESHAHA24
Fall Protection (or Working at Heights)	ESHAHA26
Hazard Communication: An Employee's Right to Know	ESHAHA27
Confined Spaces	ESHAHA28
Hazardous Waste Generator (RCRA)	ESHAHA34
Hazardous Materials in the Workplace	ESHAHA36
Workplace Inspections	ESHAHA40
Safe Work Practices	ESHAHA52
Indoor Hoisting and Rigging	ESHAHA60
Accident Investigation and Reporting	ESHAHA62
Workplace Safety Orientation	ESHAHA65
Behavior-based Safety for Supervisors	ESHAHA71
Flagging Safety	ESHAHA75
NFPA 70E Electrical Safety in the Workplace 2012 Edition	ESHAHA78
Hazard Communication (HAZWOPER)	ESHAHA80
Carcinogen Safety 1	ESHAHA81
Regulatory Information	ESHAHA91
Spill Prevention and Control	ESHAHB01
Spill Prevention - Control - and Countermeasure Plan	ESHAHB02
Storm Water Pollution Prevention	ESHAHB03
Used Oil Management	ESHAHB05
Fire and Explosion Hazards (H)	ESHAHB08
Personal Protective Equipment (HAZWOPER)	ESHAHB14
Electrical Safety	ESHAHB15
Lockout/Tagout	ESHAHB17
Bloodborne Pathogen Awareness	ESHAHB19
Fire Safety and Prevention	ESHAHB20
Fall Protection	ESHAHB22
Hazard Communication: An Employee's Right to Know	ESHAHB23
Hearing Conservation	ESHAHB24
Respiratory Protection	ESHAHB26

Course Name	Course Code
Forklift Safety Awareness	ESHAHB28
Job Hazard Analysis	ESHAHB29
Slips - Trips - and Falls	ESHAHB32
Hand and Power Tool Safety	ESHAHB33
Defensive Driving	ESHAHB45
Injury and Illness Prevention Program (I2P2)	ESHAHB50
Distracted Driving	ESHAHB55
Office Safety	ESHAHB83
Ethics and Integrity	ETI08A
Foreign Disclosure - Contact Officer Training	FDO2CTOF01
Foreign Disclosure - Commander Course	FDO3CMDR01
The No FEAR Act	FGOV01A01
Federal Budgeting Process	FGOV01A08
The Plain Writing Act	FGOV01A30
Organizational Budgeting Activities and the Master Budget	FIN05A01
Planning and Preparing an Operating Budget	FIN05A02
Using Budgets for Management and Control	FIN05A04
Basic Business Math: Using Whole Numbers and Decimals	FND01A01
Basic Business Math: Percentages and Ratios	FND01A02
Basic Business Math: Averages and Equations	FND01A03
Basic Business Math: Charts and Graphs	FND01A04
GCSS-MC Welcome to GCSS Basics	GCSS11BC01
Handcuffing Offenders	HCO08A
Documenting Discipline	HR0162
Risk Management: Organizational Risk and Safety and Health Legislation	HR15A01
Final Exam: Risk Management (HRCI: PHR/SPHR-aligned)	HR15A01FE
Risk Management: Workplace Safety - Security - and Privacy	HR15A02
Hazmat and CBRNE Response	HZC08A
Writing for Technical Professionals: Preparation and Planning	IBWSTPA01
Writing for Technical Professionals: Effective Writing Techniques	IBWSTPA02
Individual First Aid Kit	IFAK01
Accident Avoidance	ILEACAV01A
Force Protection	ILEFP0101A
Host Nation Police Advising and Development	ILEHNAD01A
Law Enforcement History - Lessons Learned	ILELEH001A
Mental Conditioning and Survival	ILEMCSV01A
Military Working Dogs and the Police	ILEMWDP01A
Searching Offenders	ILESO0001A
Stop and Frisk	ILESPFK01A
DOD Combating Trafficking in Persons for Law Enforcement	ILETPLE01A
Use of Force	ILEUOF001A
The Information Technology Industry Overview: Version 3	INDO01A19
The Education Industry Overview: Version 1	INDO01A21
Infantry Mortarman (60mm)	INFMOR60MM
Infantry Mortarman (81mm)	INFMOR81MM

Course Name	Course Code
Infantry Mortarman (Operations 1)	INFMOROPS1
Infantry Mortarman (Operations 2)	INFMOROPS2
Cyber Awareness Challenge (Intel Community)	INTELCAC01
IO and Intelligence Characterization of the Information Environment	IOINTEL001
MAGTF Information Operations	IOMAGTF001
Internally Transportable Vehicle (ITV) Operations	ITVO01AA00
Forward Observer PC Simulation (FOPCSIM)	J00FOP
L204 Man Portable Lighting	L204MPL01B
Military Law	LAW08A
Equal Employment Opportunity and Discriminatory Practices in Hiring	LCHR0109
Procurement Integrity	LCHR0111
Understanding the Americans with Disabilities Act (ADA)	LCHR0115
Workplace Diversity Awareness	LCHR01A03
Workplace Violence	LCHR01A04
Conflicts of Interest in the Workplace	LCHR01A07
Rightful Employment Termination	LCHR01A08
Privacy and Information Security	LCHR01A10
Government Contracting Essentials	LCHR01A23
A Manager's Guide to Diversity - Inclusion - and Accommodation	LCHR01A52
A Manager's Guide to Discipline and Documentation	LCHR01A53
Bullying and Violence in the Workplace	LCHR01A55
EEO and Lawful Hiring	LCHR01A70
Ethical Decision Making Simulation	LCO0100
Conflict of Interest Simulation	LCO010S
Attorney-Client Privilege	LCO0113
Doing Business with the Government	LCO0115
Record Retention	LCO0119
Managing Workplace Harassment Complaints	LCO020T
The Benefits and Challenges of Engaging Employees	LEAD06A01
Maintaining an Engaging Organization	LEAD06A02
Creating and Maintaining a Positive Work Environment	LEAD07A01
Managing Internal Dynamics in a Cross-functional Team	LEAD10A03
The Voice of Leadership: Inspirational Leadership	LEAD13A01
The Voice of Leadership: Self-assessment and Motivation	LEAD13A02
The Voice of Leadership: Effective Leadership Communication Strategies	LEAD13A03
The Voice of Leadership: The Power of Leadership Messaging	LEAD13A04
Alcohol and Drugs in the Workplace	M00ADW0799
Alarms	M00ALA0799
Battery 1 - Tactical Vehicle Battery Maintenance Management for Vehicle Drivers	M00BMD0699
Battery 2 – Tactical Vehicle Battery Maintenance Management for Battery Shop NCOs	M00BMN0635
Battery 3 - Tactical Vehicle Battery Maintenance Management for Motor Transport Officers and SNCOs	M00BMO0635
Bomb Threat	M00BMT0799
Combined Arms Planning Tool	M00CAP
Critical Infrastructure Protection	M00CIP0799

Course Name	Course Code
Combat Orders	M00CO_0799
Crowd Control	M00CWC0799
Ethics	M00ETC0799
Fire Response	M00FRS0799
Hazardous Materials Communication	M00HMC0799
Math for Marines (WEB)	M00MTH0000
Public Relations	M00PRT0799
Safety Awareness	M00SAN0799
Stress	M00STS0799
Threat Levels and Force Protection Conditions	M00TLF0799
Security Awareness Series - Safety Awareness	M01CSA0799
Records Management (Department of the Navy): Advanced Topics	M02RMT0700
CLSP Basic CLS Concepts Examination	M0CLSPX10A
CLSP Treating Specific Injuries and Conditions Examination	M0CLSPX20A
CLSP Patient Management Skills Examination	M0CLSPX30A
ACPM-8000 MACCS	MAWTS8000X
ACPM-8020 ACE	MAWTS8020X
ACPM-8040 Threat	MAWTS8040X
ACPM-8060 MAGTF	MAWTS8060X
ACPM-8080 Joint Air Operations	MAWTS8080X
MCB Quantico OPSEC Introduction	MCBQINTRO01
Air Quality Compliance	MCIEAQ001A
USMC – Environmental Awareness for Commanders	MCIEEAC01A
Greening Through Procurement	MCIEGTP01A
USMC - Hazardous Waste Management Refresher Course	MCIEHMR01A
USMC - Introduction to Hazardous Material and Hazardous Waste	MCIEIHM01A
USMC – Pollution Prevention (P2) Training for All Personnel	MCIEPPA01A
USMC – Pollution Prevention (P2) Training for Managers and Supervisors	MCIEPPM01A
USMC – SPCC and Tank Management	MCIESTM01A
Aircraft Rescue and Firefighting Operations	MCIWRL0063
Career Retention Specialist	MCIZ0084ZZ
Counseling Marines	MCIZ0112DZ
Order Writing Clerk	MCIZ0138CZ
Unit Mailclerk	MCIZ0144ZZ
The M252 81MM Mortar Crewman	MCIZ0322KZ
Stability and Support Operations	MCIZ0326AZ
M98A1 Javelin Weapons System for Marines	MCIZ0357ZZ
The Heavy Barrel Machinegun	MCIZ0368BZ
The Marine Rifleman: Combat Skills	MCIZ0370CZ
Infantry Sqd Ldr: Weapons & Fire Support	MCIZ0382ZZ
Amphibious Embarkation	MCIZ0430ZZ
The Logistics/Embarkation Specialist	MCIZ045DZZ
Propagation of Radio Waves and Antenna Construction	MCIZ0621ZZ
Incidental Operations of the AN/PRC-117G	MCIZ0622ZZ
Field Artillery Survey	MCIZ0813CZ

Course Name	Course Code
M777A2 Howitzer Section Chief	MCIZ0819ZZ
M777A2 Basic Cannoneer	MCIZ0827ZZ
Solid State Devices	MCIZ1142CZ
Fundamentals of Refrigeration	MCIZ1161AZ
Engineer Equipment Chief	MCIZ1328FZ
Fundamentals of Diesel Engines	MCIZ1335DZ
AAV RAM/RS Crew Functions	MCIZ1800ZZ
Field Operation and Employment of the Assault Amphibian Vehicle	MCIZ1831CZ
AAVP7A1 Logbook and Communications	MCIZ1834CZ
M1A1 Armament and Ammunition	MCIZ1844AZ
Tank Gunnery	MCIZ1846AZ
Operation of the Upgunned Weapons Station	MCIZ1851ZZ
Electronics Mathematics for Marines	MCIZ2820ZZ
Fundamentals of Digital Logic	MCIZ286HZZ
Introduction to Test Equipment	MCIZ287BZZ
Warehousing Operations	MCIZ303IZZ
Personal Financial Management	MCIZ3420GZ
Basic Pay and Allowances	MCIZ3422CZ
Motor Transport Operator NCO	MCIZ3503AZ
Tactical Motor Vehicle Fuel and Exhaust Systems	MCIZ3525DZ
Dispatching Procedures for Motor Transport	MCIZ3538CZ
Chemical, Biological, Radiological, and Nuclear Defense	MCIZ5711ZZ
Chemical Biological Radiological and Nuclear Reconnaissance Operations	MCIZ5715ZZ
Physical Security Specialist	MCIZ5803ZZ
Physical Security Chief	MCIZ5804ZZ
MILITARY POLICE INTERVIEW/INTERROGATION FORMS	MCIZ5812BZ
CORRECTIONS	MCIZ581FZZ
Corrections Supervisor	MCIZ582AZZ
Aircraft Maintenance Chief	MCIZ6019ZZ
Theory and Construction of Gas Turbine Engines	MCIZ602BZZ
Command Team Advisor & Family Readiness Assistant - Official Communication	MFZFRAD01A
FRPT Command Team Advisor and Family Readiness Assistant - Information and Referral	MFZFRAD02A
FRPT Command Team Advisor and Family Readiness Assistant - Effective Information and Instruction	MFZFRAD03A
Command Team Training - Introduction	MFZFRCT01A
Command Team Training - Command Team Members	MFZFRCT02A
Command Team Training - Reserve Duty Command Team	MFZFRCT03A
Command Team Training - Program Components	MFZFRCT04A
Command Team Training - Funding Administration	MFZFRCT05A
Family Readiness Program Training - FRO Funding Administration	MFZFRO001A
FRO Training - Readiness & Deployment	MFZFRO002A
FRO Training - Official Command Communication	MFZFRO003A
FRO Training - Official FRO Communication	MFZFRO004A
FRO Information and Referral	MFZFRO005A
FRO Volunteer Management	MFZFRO006A

Course Name	Course Code
FRO Staff Officer Training	MFZFRO007A
Transitioning from Technical Professional to Management Simulation	MGMT0120
Management Development for Technical Professionals	MGMT0121
Strategies for Transitioning into Management	MGMT0125
Managing Upward Relationships	MGMT02A05
Developing a High-performance Organization	MGMT23A01
Managing for Rapid Change and Uncertainty	MGMT23A03
Foundation Health and Safety - Healthcare: Workplace Health - Safety and Welfare	MIND10A04
Marketing Essentials: Introduction to Marketing	MKT01A01
Marketing Essentials: Planning and People	MKT01A02
Marketing Essentials: Product and Price	MKT01A03
Marketing Essentials: Place	MKT01A04
Marketing Essentials: Promotion	MKT01A05
Marketing Essentials: Marketing and Ethics	MKT01A06
Competitive Marketing Strategies: Conducting an Internal Analysis	MKT02A01
Competitive Marketing Strategies: Analyzing Competitors	MKT02A02
Competitive Marketing Strategies: Selecting and Implementing Strategies	MKT02A03
Building Lasting Customer-brand Relationships	MKT03A01
Developing a Brand Internally	MKT03A02
Global Brand Management	MKT03A03
Brand Management for Social Media and Wireless Technologies	MKT03A04
Proctor Certification Course	MNET0110PC
Military Police Advance Course	MPADVC0000
NMITC - Marking Classified Documents	NMITC_MC
Officer Safety: 10 Deadly Errors	OFS08A
Exploratory Data Analysis in Six Sigma	OPER08A01
Operations Management and the Organization	OPER21A01
Operations Management: Product and Service Management	OPER21A02
Operations and Supply Chain Management	OPER21A03
Operations Management: Inventory Management	OPER21A04
Operations Management: Forecasting and Capacity Planning	OPER21A05
Operations Management: Operations Scheduling	OPER21A06
Operations Management: Management of Quality	OPER21A07
Operations Management: Facilities Planning and Management	OPER21A08
Customer-driven Process Improvement: Basic Framework	OPER22A01
Customer-driven Process Improvement: Identifying Customer Needs	OPER22A02
Customer-driven Process Improvement: From Customer Needs to Process Requirements	OPER22A03
Customer-Driven Process Improvement: Mapping and Measuring Processes	OPER22A04
Customer-driven Process Improvement: Analyzing Process Problems	OPER22A05
Customer-Driven Process Improvement: Identifying Improvement Ideas and Solutions	OPER22A06
Customer-driven Process Improvement: Implementing and Maintaining Improvements	OPER22A07
PEQ-15	OPTPEQ
Offender Transportation	OT11A0
P-19A Operator Licensing Course Exam	P19AEXAM1A
Generating Creative and Innovative Ideas: Enhancing Your Creativity	PD0901

Course Name	Course Code
Generating Creative and Innovative Ideas: Maximizing Team Creativity	PD0902
Generating Creative and Innovative Ideas: Verifying and Building	PD0903
Writing under Pressure: Preparing for Success	PD28A01
Writing under Pressure: The Writing Process	PD28A02
Project Management Fundamentals	PROJ01A01
Transitioning into a Project Management Role	PROJ01A02
Initiating and Planning a Project	PROJ01A03
Managing a Project	PROJ01A04
Troubleshooting and Closing the Project	PROJ01A05
IT Project Management Essentials: Introduction to IT Project Management	PROJ17A01
IT Project Management Essentials: Initiating and Planning IT Projects	PROJ17A02
IT Project Management Essentials: Executing IT Projects	PROJ17A03
IT Project Management Essentials: Monitoring and Controlling IT Projects	PROJ17A04
IT Project Management Essentials: Managing Risks in an IT Project	PROJ17A05
IT Project Management Essentials: Testing Deliverables and Closing IT Projects	PROJ17A06
Encountering PTSD and Mental Illness	PTS08A
Carcinogen Safety	SAH0407
Decontamination (HAZWOPER)	SAH0416
Emergency Response and Spill Control (HAZWOPER)	SAH0423
Fire and Explosion Hazards (HAZWOPER)	SAH0426
Heat and Cold Exposure Management (HAZWOPER)	SAH0439
PPE/Respiratory Protection (HAZWOPER)	SAH0464
Regulatory Overview (HAZWOPER)	SAH0473
Site Control (HAZWOPER)	SAH0477
Site Safety and Health Plan Procedures (HAZWOPER)	SAH0478
Toxicology (HAZWOPER)	SAH0482
M249 SAW	SAW0010000
Basic Communications Officer Single Channel Radio	SCR001
Testing Throughout the Software Life Cycle	SDSFTF02
Getting Started with Software Programming	SDSPFFA01
Introduction to Software Program Design	SDSPFFA02
Software Program Control Flow Fundamentals	SDSPFFA03
Securing Evidence	SEV08A
Stress Management	SM11A0
M1014 Service Shotgun Overview	SSO08A
Suspect Rights	SUS08A
Security Force Tactical Shotguns Overview	TAC08A
TERPS-S Prerequisite Exam	TERPSEXAM1
PFT/CFT Training and Preparation Course	TSD4TRN001
MPF Staff Planning: Mission Analysis	UI060320DA
MPF Staff Planning: Marshalling and Movement	UI060320DB
MPF Staff Planning: Arrival and Assembly	UI060320DC
MPF Staff Planning: Reconstitution and Maintenance	UI060320DD
VRC-110/PRC-152 Basic Operator Training	VRC110BOTA
Weapons Handling Safety Rules	WEA08A

Course Name	Course Code
MCAS Yuma Range Safety Course	YUMARSC001A

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D. PROJECT CODE 4 COURSE LIST

Course Name	Course Code
PFT Monitor Certification Course	TSD1PFT001
Operational Terms and Graphics	B130836000
The Battalion FSOC	C0389DAI
Battlespace Geometry and Control Measures	C0389DBI
Fire Support Planning	C0389DCI
Targeting Process	C0389DDI
Fire Support Scheduling	C0389DEI
C2PC	C2P0010000
Cultural Awareness and Terrorism	CA01AO
Conflict/Dispute Resolution	CDR08A
Dari Military Module 1	CLDARHS01A
Dari Military Module 2	CLDARHS02A
Dari Military Module 3	CLDARHS03A
Dari Military Module 4	CLDARHS04A
Dari Military Module 5	CLDARHS05A
Dari Military Module 6	CLDARHS06A
Dari Military Module 7	CLDARHS07A
Dari Military Module 8	CLDARHS08A
Dari Military Module 9	CLDARHS09A
Dari Military Module 10	CLDARHS10A
Dari Sound and Script	CLDARHS11A
Rapport - Dari	CLDARRP00A
French Military Module 1	CLFREHS01A
French Military Module 2	CLFREHS02A
French Military Module 3	CLFREHS03A
French Military Module 4	CLFREHS04A
French Military Module 5	CLFREHS05A
French Military Module 6	CLFREHS06A
French Military Module 7	CLFREHS07A
French Military Module 8	CLFREHS08A
French Military Module 9	CLFREHS09A
French Military Module 10	CLFREHS10A
French Sound and Script	CLFREHS11A
Mandarin Chinese Headstart2 Module 1	CLHSCHI01A
Mandarin Chinese Headstart2 Module 2	CLHSCHI02A
Mandarin Chinese Headstart2 Module 3	CLHSCHI03A
Mandarin Chinese Headstart2 Module 4	CLHSCHI04A
Mandarin Chinese Headstart2 Module 5	CLHSCHI05A
Mandarin Chinese Headstart2 Module 6	CLHSCHI06A
Mandarin Chinese Headstart2 Module 7	CLHSCHI07A
Mandarin Chinese Headstart2 Module 8	CLHSCHI08A

Mandarin Chinese Headstart2 Module 9	CLHSCHI09A
Mandarin Chinese Headstart2 Module 10	CLHSCHI10A
Mandarin Chinese Module Headstart2 11 Sound and Script	CLHSCHI11A
Headstart 2 Farsi Module 1	CLHSFAR01A
Headstart 2 Farsi Module 2	CLHSFAR02A
Headstart 2 Farsi Module 3	CLHSFAR03A
Headstart 2 Farsi Module 4	CLHSFAR04A
Headstart 2 Farsi Module 5	CLHSFAR05A
Headstart 2 Farsi Module 6	CLHSFAR06A
Headstart 2 Farsi Module 7	CLHSFAR07A
Headstart 2 Farsi Module 8	CLHSFAR08A
Headstart 2 Farsi Module 9	CLHSFAR09A
Headstart 2 Farsi Module 10	CLHSFAR10A
Headstart 2 Farsi Module 11 Sound and Script	CLHSFAR11A
Headstart 2 Korean Module 1	CLHSKOR01A
Headstart 2 Korean Module 2	CLHSKOR02A
Headstart 2 Korean Module 3	CLHSKOR03A
Headstart 2 Korean Module 4	CLHSKOR04A
Headstart 2 Korean Module 5	CLHSKOR05A
Headstart 2 Korean Module 6	CLHSKOR06A
Headstart 2 Korean Module 7	CLHSKOR07A
Headstart 2 Korean Module 8	CLHSKOR08A
Headstart 2 Korean Module 9	CLHSKOR09A
Headstart 2 Korean Module 10	CLHSKOR10A
Headstart 2 Korean Module 11 Sound and Script	CLHSKOR11A
Modern Standard Arabic Headstart2 Module 1	CLHSMSA01A
Modern Standard Arabic Headstart2 Module 2	CLHSMSA02A
Modern Standard Arabic Headstart2 Module 3	CLHSMSA03A
Modern Standard Arabic Headstart 2 Module 4	CLHSMSA04A
Modern Standard Arabic Headstart2 Module 5	CLHSMSA05A
Modern Standard Arabic Headstart2 Module 6	CLHSMSA06A
Modern Standard Arabic Headstart2 Module 7	CLHSMSA07A
Modern Standard Arabic Headstart2 Module 8	CLHSMSA08A
Modern Standard Arabic Headstart2 Module 9	CLHSMSA09A
Modern Standard Arabic Headstart2 Module 10	CLHSMSA10A
Modern Standard Arabic Headstart2 Module 11 Sound and Script	CLHSMSA11A
Brazilian Portuguese Headstart2 Module 1	CLHSPOR01A
Brazilian Portuguese Headstart2 Module 2	CLHSPOR02A
Brazilian Portuguese Headstart2 Module 3	CLHSPOR03A
Brazilian Portuguese Headstart2 Module 4	CLHSPOR04A
Brazilian Portuguese Headstart2 Module 5	CLHSPOR05A
Brazilian Portuguese Headstart2 Module 6	CLHSPOR06A
Brazilian Portuguese Headstart2 Module 7	CLHSPOR07A
Brazilian Portuguese Headstart2 Module 8	CLHSPOR08A
Brazilian Portuguese Headstart2 Module 9	CLHSPOR09A
Brazilian Portuguese Headstart2 Module 10	CLHSPOR10A

Brazilian Portuguese Headstart2 Module 11 Sound and Script	CLHSPOR11A
Headstart 2 Russian Module 1	CLHSRUS01A
Headstart 2 Russian Module 2	CLHSRUS02A
Headstart 2 Russian Module 3	CLHSRUS03A
Headstart 2 Russian Module 4	CLHSRUS04A
Headstart 2 Russian Module 5	CLHSRUS05A
Headstart 2 Russian Module 6	CLHSRUS06A
Headstart 2 Russian Module 7	CLHSRUS07A
Headstart 2 Russian Module 8	CLHSRUS08A
Headstart 2 Russian Module 9	CLHSRUS09A
Headstart 2 Russian Module 10	CLHSRUS10A
Headstart 2 Russian Module 11 Sound and Script	CLHSRUS11A
Headstart 2 Spanish Module 1	CLHSSPA01A
Headstart 2 Spanish Module 2	CLHSSPA02A
Headstart 2 Spanish Module 3	CLHSSPA03A
Headstart 2 Spanish Module 4	CLHSSPA04A
Headstart 2 Spanish Module 5	CLHSSPA05A
Headstart 2 Spanish Module 6	CLHSSPA06A
Headstart 2 Spanish Module 7	CLHSSPA07A
Headstart 2 Spanish Module 8	CLHSSPA08A
Headstart 2 Spanish Module 9	CLHSSPA09A
Headstart 2 Spanish Module 10	CLHSSPA10A
Headstart 2 Spanish Module Sound and Script	CLHSSPA11A
Headstart 2 Swahili Module 1	CLHSSWA01A
Headstart 2 Swahili Module 2	CLHSSWA02A
Headstart 2 Swahili Module 3	CLHSSWA03A
Headstart 2 Swahili Module 4	CLHSSWA04A
Headstart 2 Swahili Module 5	CLHSSWA05A
Headstart 2 Swahili Module 6	CLHSSWA06A
Headstart 2 Swahili Module 7	CLHSSWA07A
Headstart 2 Swahili Module 8	CLHSSWA08A
Headstart 2 Swahili Module 9	CLHSSWA09A
Headstart 2 Swahili Module 10	CLHSSWA10A
Headstart 2 Swahili Module 11 Sound and Script	CLHSSWA11A
Headstart 2 Urdu Module 1	CLHSURD01A
Headstart 2 Urdu Module 2	CLHSURD02A
Headstart 2 Urdu Module 3	CLHSURD03A
Headstart 2 Urdu Module 4	CLHSURD04A
Headstart 2 Urdu Module 5	CLHSURD05A
Headstart 2 Urdu Module 6	CLHSURD06A
Headstart 2 Urdu Module 7	CLHSURD07A
Headstart 2 Urdu Module 8	CLHSURD08A
Headstart 2 Urdu Module 9	CLHSURD09A
Headstart 2 Urdu Module 10	CLHSURD10A
Headstart 2 Urdu Module 11 Sound and Script	CLHSURD11A
Iraqi Arabic Headstart2 Module 1	CLIRAHS01A

Iraqi Arabic Headstart2 Module 2	CLIRAHS02A
Iraqi Arabic Headstart2 Module 3	CLIRAHS03A
Iraqi Arabic Headstart2 Module 4	CLIRAHS04A
Iraqi Arabic Headstart2 Module 5	CLIRAHS05A
Iraqi Arabic Headstart2 Module 6	CLIRAHS06A
Iraqi Arabic Headstart2 Module 7	CLIRAHS07A
Iraqi Arabic Headstart2 Module 8	CLIRAHS08A
Iraqi Arabic Headstart2 Module 9	CLIRAHS09A
Iraqi Arabic Headstart2 Module 10	CLIRAHS10A
Iraqi Arabic Headstart2 Sound and Script	CLIRAHS11A
Rapport - Iraqi (Arabic)	CLIRARP00A
HEADSTART2 - Pashto Military Module 1	CLPASHS01A
HEADSTART2 - Pashto Military Module 2	CLPASHS02A
HEADSTART2 - Pashto Military Module 3	CLPASHS03A
HEADSTART2 - Pashto Military Module 4	CLPASHS04A
HEADSTART2 - Pashto Military Module 5	CLPASHS05A
HEADSTART2 - Pashto Military Module 6	CLPASHS06A
HEADSTART2 - Pashto Military Module 7	CLPASHS07A
HEADSTART2 - Pashto Military Module 8	CLPASHS08A
HEADSTART2 - Pashto Military Module 9	CLPASHS09A
HEADSTART2 - Pashto Military Module 10	CLPASHS10A
HEADSTART2 - Pashto Sound and Script	CLPASHS11A
Rapport - Pashto	CLPASRP00A
Civil-Military Operations Supporting Plan Annex G	CMO1100000
Civil-Military Operations Staff Integration	CMO1200000
Civil Military Operations Staff Estimate	CMOSE10000
Introduction to USMC Environmental Management Systems (EMS)	DI5090A
Critical Infrastructure Protection (CIP): Beginning the CIP Process	DI5500A
Critical Infrastructure Protection (CIP): Consequence Management Planning	DI5500D
DRRS-MC Policy Training	DRRSPOL01A
USMC Environmental Compliance Coordinator's Course	EMA-ECC01A
Protection from Occupational Noise	ESHAHA29
Using Respiratory Protection	ESHAHA31
Forklift Safety Awareness	ESHAHA38
Interpersonal Communications	IC11A0
Introduction to Ballistic Protection	ICEBALP100
Improved Modular Tactical Vest Care and Use Course	ICEIMTV100
Plate Carrier Care and Use	ICEPCCU100
Combat Conditioning Enhancement and Injury Prevention Through Leadership	INJPRV
Six Functions of Marine Aviation	JTAC01
Introduction to Fire Support in MAGTF Operations	JTAC02
Battlespace Geometry	JTAC03
Targeting	JTAC04
Air Command and Control	JTAC05
Close Air Support	JTAC06
Basic Call for Fire	JTAC07

Advanced Call for Fire	JTAC08
Nine-Line	JTAC09
Fixed Wing Employment	JTAC10
Rotary Wing Employment	JTAC11
Joint Publication 3–13: Information Operations	JTINFOOP0A
Combat Reports	M00CR_0799
Global War on Error - Mod 2: The Mind Body Link	M02GWE0675
CLSP Medical Fundamentals Course	M0CLSP010A
CLSP TCCC Overview Course	M0CLSP020A
CLSP Manage Hemorrhage Course	M0CLSP030A
CLSP Manage Hemorrhagic Shock Course	M0CLSP040A
CLSP Manage Penetrating Chest Injuries Course	M0CLSP050A
CLSP Emergency Airway Management Course	M0CLSP060A
CLSP Manage Burn Casualties Course	M0CLSP070A
CLSP Perform Splinting Techniques Course	M0CLSP080A
CLSP Battlefield Medications Course	M0CLSP090A
CLSP Perform Casualty Movement Course	M0CLSP100A
Global War on Error - Mod 3: The Many Faces of Error in Tactical Marine Aviation	M75GE3
Global War on Error Mod 4: Total Recall: Situational Awareness and Attention Management in Tactics	M75GE4
Global War on Error Mod 5: Tapping into Technology: An Introduction to Automation Airmanship	M75GE5
Critical Asset Identification Process (CAIP)	MACAIP0001
Critical Infrastructure Program (CIP) Basics	MACIPB0001
MAGTF Fires	MAGTAA0000
Marine Corps Total Force Mobilization, Augmentation, Integration, and Deactivation Plan (MAID-P)	MAIDP0001A
Marine Corps Mission Assurance Risk Management	MARMGMT001
USMC - Hazardous Materials Transportation for Drivers	MCIEHMT01A
MCIWEST Air Quality Compliance Course	MCIWAQC01A
Aircraft and Helicopter Refueling	MCIWRLO001
Aircraft Takeoff and Landing	MCIWRLO002
Aqueous Degreasing	MCIWRLO003
Asbestos	MCIWRLO004
Backflow Prevention	MCIWRLO005
Battery Replacement	MCIWRLO006
Battery Storage	MCIWRLO007
Boiler Operations	MCIWRLO008
Dental Operations	MCIWRLO009
Diesel Power Generation	MCIWRLO010
Diesel Power Generation in Garrison	MCIWRLO011
Dry Filter Paint Booth	MCIWRLO012
Emergency Generators	MCIWRLO013
Engine Testing	MCIWRLO014
Fuel Storage Tank	MCIWRLO015
Grease Traps	MCIWRLO016

Greening through Procurement (2008 Ver. 1)	MCIWRLO017
Halon Systems	MCIWRLO018
Hazardous Material Storage	MCIWRLO019
Hazardous Material Transportation	MCIWRLO020
Waste Accumulation Area	MCIWRLO021
Waste Transportation	MCIWRLO022
HCP Operations	MCIWRLO023
Lead Acid Battery Recharging	MCIWRLO024
Medical Operations	MCIWRLO025
MRE Heaters	MCIWRLO026
Oil/Water Separator	MCIWRLO027
Painting with Aerosols and Brushes	MCIWRLO028
Paint Gun Cleaning	MCIWRLO029
PCB Items	MCIWRLO030
Pesticides and Herbicides	MCIWRLO031
Potable Water Systems	MCIWRLO032
Pumping Stations - Force Mains	MCIWRLO033
Range Residue Clearance	MCIWRLO034
Satellite Accumulation Areas	MCIWRLO035
Soil Excavation and Grading	MCIWRLO036
Soldering Operations	MCIWRLO037
Solid Waste Collection - Local	MCIWRLO038
Solid Waste Landfills	MCIWRLO039
Solid Waste Recycling - Local	MCIWRLO040
Solid Waste Recycling Facilities	MCIWRLO041
Spill Abatement	MCIWRLO042
Stump and Brush Removal	MCIWRLO043
Tank Truck Fuel Transfer	MCIWRLO044
Tank Truck Fuel Transport	MCIWRLO045
Tire Replacement	MCIWRLO046
Turbine Generation	MCIWRLO047
Used Oil and Antifreeze	MCIWRLO048
Vehicle Brake Replacement	MCIWRLO049
Vehicle Coolant Change	MCIWRLO050
Vehicle Maintenance Degreaser Solvent	MCIWRLO051
Vehicle Oil Change	MCIWRLO052
Vehicle Refrigerant Replacement	MCIWRLO053
Vehicle Refueling	MCIWRLO054
Vehicle Wash Racks	MCIWRLO055
Waste Water Flare Ops	MCIWRLO056
Weapons Cleaning	MCIWRLO057
Weapons Maintenance - Degreaser Solvent	MCIWRLO058
Welding Operations	MCIWRLO059
Wildlife Management	MCIWRLO060
Aircraft Arresting Gear	MCIWRLO061
Fuel Drain	MCIWRLO062

Aviation Fuel Analysis	MCIWRLO064
Unexploded Ordnance	MCIWRLO065
Motor Vehicle Off-Road Operation	MCIWRLO066
Open Burning and Detonation	MCIWRLO067
Dining Facilities	MCIWRLO068
Oxygen Storage	MCIWRLO069
Photo Development	MCIWRLO070
Aircraft and Helicopter Fueling and De-fueling	MCIWRLO071
Portable Generators	MCIWRLO072
Sewers	MCIWRLO073
Biological Treatment	MCIWRLO074
Fuel Dumping	MCIWRLO075
Public School and Daycare	MCIWRLO076
Aircraft Parking	MCIWRLO077
Radioactive Material Storage (RMS)	MCIWRLO078
Compressed Natural Gas (CNG)	MCIWRLO079
Industrial Laundry (ILA)	MCIWRLO080
Cooling Tower Corrosion Control (CTC)	MCIWRLO081
Potable Water Treatment (PWT)	MCIWRLO082
Lubrication (LUB)	MCIWRLO083
Open Burning (OPB)	MCIWRLO084
Sediment Traps (SDT)	MCIWRLO085
Woodworking (WWK)	MCIWRLO086
Sewer Lift Stations (SLS)	MCIWRLO087
Screening Communitors and Bar Screens (SCC)	MCIWRLO088
Sludge Disposal (WSD)	MCIWRLO089
Flare and Smoke Usage (FLS)	MCIWRLO090
Potable Water Distribution (POT)	MCIWRLO091
Small Arms Range (SAR)	MCIWRLO092
Water Chillers (WCH)	MCIWRLO093
Paint Preparation (PPR)	MCIWRLO094
Scrap Processing (SCP)	MCIWRLO095
Controlled Burn Operations	MCIWRLO096
WW Effluent - Ocean Outfall	MCIWRLO097
WW Effluent - Ponds and Basins	MCIWRLO098
WW Treatment - Physical and Chemical	MCIWRLO099
Acid Cleaning	MCIWRLO100
WW Effluent - Land Discharge	MCIWRLO101
Recreational Facilities - Auto Hobby Shop	MCIWRLO102
Vehicle Maneuver Training	MCIWRLO103
Equipment Disposal - AC (Freon and Lubricant Recovery)	MCIWRLO104
Boat, Dock, and Ramp Cleaning	MCIWRLO105
Aircraft Fluid Change	MCIWRLO106
Recreational Facilities - Athletic Facilities	MCIWRLO107
Burnout Oven	MCIWRLO108
Recreational Facilities - Golf Courses	MCIWRLO109

Recreational Facilities - Museums	MCIWRLO110
Diesel Powered Fire Pumps	MCIWRLO111
Equipment Disposal - Mercury Containing Wastes	MCIWRLO112
Recreational Facilities - Graphic Services	MCIWRLO113
Electronic Equipment Disposal - Fluorescent Light Tubes	MCIWRLO114
Recreational Facilities - Public Lands	MCIWRLO115
Recreational Facilities - Gas Stations	MCIWRLO116
Fuel Transfer-Barge/Tanker	MCIWRLO117
Electronic Equipment Disposal - E-waste	MCIWRLO118
Waste Water - Sludge Treatment	MCIWRLO119
Non-Destructive Inspection	MCIWRLO120
Roofing Kettles	MCIWRLO121
Patch Testing	MCIWRLO122
Jet Engine Test Cells	MCIWRLO123
Runoff Sediment Basins	MCIWRLO124
Lead Based Paint	MCIWRLO125
Fuel Storage Containers -SIXCONS	MCIWRLO126
Vehicle Parking	MCIWRLO127
Boat Fueling	MCIWRLO128
Degreasing Aerosol	MCIWRLO129
Composting	MCIWRLO130
Waste Water Treatment - Portable Toilets	MCIWRLO131
Battery Recharging - Non-Lead Acid	MCIWRLO132
Fuel Storage Containers - Non-Tactical	MCIWRLO133
Packaging – Un-packaging	MCIWRLO134
Vehicle Smog Inspection	MCIWRLO135
Capacitor Replacement	MCIWRLO136
Storage Tank Cleaning and Maintenance	MCIWRLO137
Chlorination - Swimming Pools	MCIWRLO138
Paint Removal - Chemical Stripping	MCIWRLO139
Foundries	MCIWRLO140
Fuel Transfer Tank Trucks - (Commercial)	MCIWRLO141
Facility Construction, Repair, and Demolition	MCIWRLO142
Equipment Disposal - MVAC	MCIWRLO143
Fuel Transport Pipelines	MCIWRLO144
Household Hazardous Waste	MCIWRLO145
Facility Maintenance and Repair	MCIWRLO146
Non-Potable Water Distribution	MCIWRLO147
Greening Through Procurement (2008 Ver. 2)	MCIWRLO148
Welding and Grinding Operations	MCIWRLO149
Non-Potable Water Tanks and Reservoirs	MCIWRLO150
Hazardous Waste Storage (90 day site)	MCIWRLO151
Electronic Equipment Maintenance	MCIWRLO152
Bilge Pumping	MCIWRLO153
Paint Booth - Water Wash	MCIWRLO154
Aircraft Parts Replacement	MCIWRLO155

Paint Removal - Dry Abrasive Blasting	MCIWRLO156
Fuel Transfer Tank Trucks - SIXCONS	MCIWRLO157
MCIWEST Refrigerant Management Tool Course	MCIWRMT01 A
Terrorism Awareness	MCIZ0210DZ
The M240B Machinegun	MCIZ0333ZZ
Infantry Patrolling	MCIZ0335DZ
Scouting and Patrolling	MCIZ0336ZZ
The Marine Corps Planning Process	MCIZ0515ZZ
Expeditionary Fire Support System	MCIZ0830ZZ
Basic Forward Observation Procedures	MCIZ0861AZ
Inspection and Repair of the M9 Pistol	MCIZ2135AZ
Communications Plans and Orders	MCIZ2540AZ
Semper Fit Basic Fitness Course	MCIZ4133AZ
Semper Fit Advanced Fitness Course	MCIZ4134AZ
MCSC Ethics training for Civilian Employees	MCSCCET- 01O
Commanders' Access to Service Members' Protected Health Information(PHI)	MFCCAPHI01
Combat Awareness	MTESD1CHA1
Combat Profiling	MTESD2CHP1
Combat Tracking	MTESD3CHT1
MCIWEST ROICC Contractor's Course	MWROICCCO 1
MCIWEST Engineering Technician's Course	MWROICCET1
Camp Pendleton Heavy Equipment Operator's Course	MWROICCHE 1
Introduction to Non-Lethal Weapons	NLWINTRO01
Introduction to Lasers Devices and Laser Safety	OPTLDS
Optics: AN/PAS-22 Thermal Sight	OPTLTI
Optics: AN/PVS-17 Miniature Night Sight	OPTMNS
Introduction to Night Vision Equipment	OPTNVE
Optics: Observation Techniques	OPTOBT
Optics: AN/PAS-13D, thermal weapon sight	OPTTWS
ROC-V 2nd Gen	ROCV2004
Range Laser Safety	RTAMLRSOA A
Range Safety	RTAMRSOCA A
Hand and Power Tool Safety	SAH0434
Indoor Hoisting and Rigging	SAH0443
Job Hazard Analysis	SAH0445
Office Safety	SAH0458
Regulatory Information	SAH0472
Slips - Trips - and Falls	SAH0479
Workplace Safety Orientation	SAH0486
Global War on Error - Mod 1: Introduction into Flight Discipline	SW060701D
Theater Battle Management Core System	TBMCS00A

TFSMS Fielding Plan Course	TFS00FPT04
TFSMS Introduction Course	TFS01INT04
TFSMS Equipment Course	TFS02EQT04
TFSMS Structure Course	TFS02STT04
TFSMS Workflow and Reports Course	TFS03WFR04
CFT Monitor Certification Course	TSD2CFT001
BCMAP Monitor Certification Course	TSD3BCP001
Tactical Site Exploitation Fundamentals	TSECOMMON 1
Foundations of Tactical Site Exploitation	TSETEAM011
TSE Scene and Evidence Activities	TSETEAM021
TSE Detainee and Reporting Activities	TSETEAM031
Unit Training Management - Platoon Level	UT03AO0000
Unit Training Management - Battalion Level	UT05AO0000
Virtual Cultural Awareness Trainer - Horn of Africa (VCAT HOA)	VCATHOA
How to Form and Manage a Safety Committee	VPPMSC
DOD Safety and Occupational Health Program	VPPOHP
Recognition of Combat Vehicles - Visible (Web)	WF01AO0000
Recognition of Combat Vehicles - Generation 1 Version (Web)	WF02AO0000

APPENDIX E. PROJECT CODE 5 COURSE LIST

Course Name	Course Code
Basic Instructor Skills Course (BISC)	219522
Effective Feedback for Employees and Colleagues Simulation	219523
Giving Feedback to Colleagues	219524
Team Feedback: A Guide	219722
Giving Feedback: A Manager's Guide	219736
Communication Business Etiquette	219750
Managing Your Email	219763
Business Grammar: Common Usage Errors	221229
Interpersonal Communication: Communicating with Confidence	231413
Interpersonal Communication: Targeting Your Message	231423
Interpersonal Communication: Listening Essentials	231434
Interpersonal Communication: Being Approachable	231444
Basic Presentation Skills: Creating a Presentation	236232
Basic Presentation Skills: Delivering a Presentation	250450
The U.S. Constitution	BISC-010
Leadership Essentials: Motivating Employees	CDET0101WC
Leadership Essentials: Communicating Vision	COMM01A01
Leadership Essentials: Building Your Influence as a Leader	COMM01A02
Leadership Essentials: Leading with Emotional Intelligence	COMM01A03
Leadership Essentials: Leading Business Execution	COMM0520
Leadership Essentials: Leading Innovation	COMM0523
Leadership Essentials: Leading Change	COMM0524
Leadership Essentials: Creating Your Own Leadership Development	COMM0525
Cross-functional Team Fundamentals	COMM11A02
Key Strategies for Managing Cross-functional Teams	COMM1703
Performance Appraisal Essentials: Planning for Appraisals	COMM2006
Performance Appraisal Essentials: Conducting Traditional Appraisals	COMM2101
Performance Appraisal Essentials: 360-degree Appraisals	COMM2102
Getting Started with Excel 2010	COMM2103
Applying Basic Data Formatting in Excel 2010	COMM2105
Moving and Getting Around in Excel 2010	COMM28A01
Moving Data and Modifying Worksheets in Excel 2010	COMM29A01
Saving - Sending - and Printing Excel 2010 Workbooks	COMM29A02
Using Conditional Formatting - Tables - and Sparklines in Excel 2010	COMM29A03
Reviewing and Protecting Content in Excel 2010	COMM33A02
Using Basic Formulas in Excel 2010	COMM33A03

Course Name	Course Code
Using Basic Functions with Excel 2010	CSAPELA01
Inserting Basic Charts in Excel 2010	CSAPELA01TP
Adding Visuals - Themes - and Styles to Excel Workbooks	CSAPELA02
Getting Started with PowerPoint 2010	CSAPELA03
Visually Enhancing PowerPoint 2010 Presentations	CSAPELA04
Adding Images to Presentations in PowerPoint 2010	CSAPELA05
Using Multimedia and Animations in PowerPoint 2010	CSAPELA06
Getting Started with Word 2010	CSAPELA07
Formatting and Working with Text in Word 2010	CSAPELA08
Organizing and Arranging Text in Word 2010	CSAPELA09
Moving Around in Word 2010	CSAPELA10
Structuring Word 2010 Documents	CSAPPAA01
Reviewing Documents in Word 2010	CSAPPAA01TP
Saving - Sharing - and Printing in Word 2010	CSAPPAA02
Customizing the Behavior and Appearance of Word 2010	CSAPPAA03
Drawing and Inserting Graphics in Word 2010	CSAPPAA04
Getting Started with SharePoint 2010	CSAPPAA05
Managing SharePoint 2010 Pages and Components	CSAPPAA06
Managing Your Career: Creating a Plan	CSAPPAA07
Managing Your Career: Getting on the Right Track	CSAPPAA08
Managing Your Career: Professional Networking Essentials	CSCTMTA01
Managing Your Career: You and Your Boss	CSCTMTA01TP
Managing Your Career: Leveraging the Performance Appraisal	CSCTMTA02
Problem Solving: The Fundamentals	CSCTMTA03
Problem Solving: Determining and Building Your Strengths	CSCTMTA04
Problem Solving: Digging Deeper	CSCTMTA05
Decision Making: The Fundamentals	CSCTMTA06
Decision Making: Tools and Techniques	CSCTMTA07
Decision Making: Making Tough Decisions	CSCTMTA08
Critical Thinking Essentials: What Is Critical Thinking?	CSCTMTA09
Critical Thinking Essentials: Applying Critical Thinking Skills	CSCTMTA10
Building Trust	CSSTYPA01
The Value of Peer Relationships	CSSTYPA01TP
Introduction to Workplace Ethics	CSSTYPA02
Developing a Code of Ethical Conduct	CSSTYPA03
Ethical Decision-making in the Workplace	CSSTYPA04
Public Speaking Strategies: Preparing Effective Speeches	CSSTYPA05
Public Speaking Strategies: Confident Public Speaking	CSSTYPA06
TestPrep Project Management Professional (PMP) PMBOK Guide 5th Edition Aligned	CSSTYPA07

Course Name	Course Code
Being an Effective Team Member	CSSTYPA08
Establishing Team Goals and Responsibilities	CSSTYPA09
Elements of a Cohesive Team	CSSTYPA10
Effective Team Communication	CSSTYQA01
Using Feedback to Improve Team Performance	CSSTYQA02
Leading Teams: Launching a Successful Team	CSSTYQA03
Leading Teams: Establishing Goals - Roles - and Guidelines	CSSTYQA04
Leading Teams: Developing the Team and its Culture	CSSTYQA05
Leading Teams: Building Trust and Commitment	CSSTYQA06
Leading Teams: Fostering Effective Communication and Collaboration	CSSTYQA07
Leading Teams: Motivating and Optimizing Performance	CSSTYQA08
Leading Teams: Dealing with Conflict	CSSTYQA09
Leading Teams: Managing Virtual Teams	CSSTYQA10
Beyond 3G (B3G)	CUST0901
4G Communication Systems	CUST0902
Non-Cellular Wireless Technology	CUST0903
Programming Techniques and Strategies	CUST0904
General Coding Best Practices	CUST0905
Object-oriented Coding Best Practices	CUST0906
Maintaining Quality Code	ESSPADA01
4G Implementations	ESSPADA02
Introducing User-Centered Design	ESSPADA03
Developing an Application Using User-Centered Design	ESSPADA04
The Iterative Process in User-Centered Design	ESSPADA05
Practical Examples of User-Centered Design	ESSPADA06
Introducing Voice Over IP	ESSPADA07
SharePoint 2007 Essentials	ESSPADA08
MarineNet Writing Center	ESSPADA09
Preparing a Business Case	ESSPADA10
Writing a Business Case	FGOV01A03
Presenting Your Case	IBIOSA01
Listening Essentials: The Basics of Listening	IBIOSA03
Giving Feedback	IBIOSAA02
Giving Constructive Criticism	IBIOSAA04
Receiving Feedback and Criticism	IBIOSAA05
CompTIA A+ 220–801: BIOS and Motherboards	IBIOSAA06
TestPrep 220–801 A+ Essentials	IBIOSAA07
CompTIA A+ 220–801: Memory - Expansion Cards and Storage Devices	IBIOSAA08
CompTIA A+ 220–801: CPUs - Connections - and Power Supplies	IBIOSAA09

Course Name	Course Code
CompTIA A+ 220–801: Configurations - Displays - Connectors - and Peripherals	IBIOSAA10
CompTIA A+ 220–801: Network Cabling - IP Addressing - Ports - and Protocols	IBIOSAA11
CompTIA A+ 220–801: Networking Technologies	IBIOSAA12
CompTIA A+ 220–801: Networking Devices and Tools	IBIOSAA13
CompTIA A+ 220–801: Laptops	IBIOSAA14
CompTIA A+ 220–801: Printers	IBITLU04
CompTIA A+ 220–801: Operational Procedures	IBITLU05
CompTIA A+ 220–802: Introducing Microsoft Windows	IBITLU06
TestPrep 220–802 CompTIA A+	IBITLU08
CompTIA A+ 220–802: Installing and Configuring Windows	IBITLUA01
CompTIA A+ 220–802: Optimizing Windows	IBITLUA02
CompTIA A+ 220–802: Managing Windows	IBITLUA03
CompTIA A+ 220–802: Security and Data Disposal	IBITLUA07
CompTIA A+ 220–802: Mobile Devices	IBITLUA09
CompTIA A+ 220–802: System Troubleshooting	IBOVVW01
CompTIA A+ 220–802: General Troubleshooting	IBOVVW02
CompTIA Network+ 2012: Networking Concepts Part 1	IBOVVW03
TestPrep N10-005 Network+	LEAD0501
CompTIA Network+ 2012: Networking Concepts Part 2	LEAD0502
CompTIA Network+ 2012: Network Installation and Configuration Part 1	LEAD0503
CompTIA Network+ 2012: Network Installation and Configuration Part 2	LEAD0504
CompTIA Network+ 2012: Network Media and Topologies Part 1	LEAD0505
CompTIA Network+ 2012: Network Media and Topologies Part 2	LEAD0506
CompTIA Network+ 2012: Network Management Part 1	LEAD0507
CompTIA Network+ 2012: Network Security Part 1	LEAD0508
CompTIA Network+ 2012: Network Security Part 2	LEAD10A01
CompTIA Network+ 2012: Network Security Part 3	LEAD10A02
Control Fundamentals and Security Threats	LULJLPA01
TestPrep SY0-301 Security+	LULJLPA02
Network Protocols - Attacks - and Defenses	LULJLPA03
Creating Secure Networks and Performing Security Assessments	LULJLPA04
Network and System Security Mechanisms	LULJLPA05
Remote Access and Wireless Security	LULJLPA06
Authentication - Biometrics - and Security Controls	LULJLPA07
Securing the IT Environment	LULJLPA08
Cryptography and Public Key Infrastructures	LULJLPA09
Securing Applications - Virtualized Environments - and Cloud Computing	LULKLPA01
Business Continuity - Disaster Recovery - Security Training - and Forensics	LULKLPA02
CompTIA Security+ SY0-401: Control Fundamentals and Security Threats	LULKLPA03

Course Name	Course Code
CompTIA Security+ SY0-401: Network Protocols - Attacks - and Defenses	LULKLPA04
CompTIA Security+ SY0-401: Creating Secure Networks	LULKLPA05
CompTIA Security+ SY0-401: Vulnerability Assessment and Penetration Testing	LULKLPA06
CompTIA Security+ SY0-401: Authentication - Biometrics - and Security Controls	LULKLPA07
CompTIA Security+ SY0-401: Securing a Networked Environment	LULKLPA08
CompTIA Security+ SY0-401: Remote Access - Mobile - and Wireless Security	LULPAD01
Spelling	MCIZ0118LZ
Punctuation	MCIZ0119HZ
Basic Grammar and Composition	MCIZ0120ZZ
Correspondence Procedures	MCIZ0131LZ
CompTIA Security+ SY0-401: Cryptographic Methods and Public Key Infrastructures	MFR01YRS0B
CompTIA Security+ SY0-401: Securing Applications - Virtualization - and the Cloud	MFZFRSP01A
CompTIA Security+ SY0-401: Continuity - Disaster Recovery - and Computer Forensics	MFZFRSP02A
Customer Service Fundamentals: Building Rapport in Customer Rela	MFZFRSP03A
Customer Service in the Field	MFZLNKF01A
Customer Service over the Phone	MFZLNKF02A
Internal Customer Service	MFZLNKF03A
Customer Service Confrontation and Conflict	MFZLNKF04A
Shaping the Direction of Customer Service in Your Organization	MFZLNKF05A
Customizing the SharePoint 2010 User Interface Programmatically	MFZLNKF06A
Developing SharePoint 2010 Web Parts and Controls	MFZLNKF07A
Developing Business Logic using SharePoint 2010 Workflows and ECM	MFZLNKF08A
Programmatically Working with Permissions and BCS in SharePoint 2010	MFZLNKF09A
Working With SharePoint Data	MFZLNKF10A
SharePoint Server 2010 Object Model	MFZLNKK01A
SharePoint Features and Solutions	MFZLNKK02A
SharePoint Site Branding	MFZLNKK03A
Extending SharePoint 2010 Search and Documents	MFZLNKK04A
Stabilizing and Deploying SharePoint 2010 Components	MFZLNKK05A
ITIL V3 OSA: Introduction to Operational Support and Analysis	MFZLNKK06A
ITIL V3 OSA: Introduction to Incident Management	MFZLNKK07A
ITIL V3 OSA: Introduction to Event Management	MFZLNKK08A
ITIL V3 OSA: Incident Management Interactions	MFZLNKM01A
ITIL V3 OSA: Introduction to Request Fulfillment	MFZLNKM02A
ITIL V3 OSA: Request Fulfillment Process Interfaces and Challenges	MFZLNKM03A
ITIL V3 OSA: Introduction to Problem Management	MFZLNKM04A
ITIL V3 OSA: Problem Management Process Interfaces and Challenges	MFZLNKM05A
ITIL V3 OSA: Introduction to Access Management	MFZLNKM06A
ITIL V3 OSA: Introduction to the Service Desk	MFZLNKM07A

Course Name	Course Code
ITIL V3 OSA: Service Desk Metrics and Outsourcing	MFZLNKM08A
ITIL V3 OSA: Introduction to Functions	MFZLNKT01A
ITIL V3 OSA: Function Activities	MFZLNKT02A
ITIL V3 OSA: Technology and Implementation Considerations	MFZLNKT03A
ITIL V3 Foundation Syllabus v4.2: Service Design Fundamentals	MFZLNKT04A
ITIL V3 Foundation Syllabus v4.2: Service Design Processes	MFZLNKT05A
ITIL V3 Foundation Syllabus v4.2: Service Transition Processes and Principles	MFZLNKT06A
ITIL V3 Foundation Syllabus v4.2: Service Operation Processes	MFZLNKT07A
ITIL V3 Foundation Syllabus v4.2: ITIL and the Service Life cycle	MFZLNKT08A
ITIL V3 Foundation Syllabus v4.2: Service Strategy Fundamentals	MFZLNKT09A
ITIL V3 Foundation Syllabus v4.2: Service Strategy Processes	MFZLSCCMT0
ITIL V3 Foundation Syllabus v4.2: Service Operation Principles and Functions	MFZLSCIPC0
ITIL V3 Foundation Syllabus v4.2: Continual Service Improvement Fundamentals	MFZLSCSNS0
ITIL V3 Overview: Creating a Service Culture	MFZLSICNP0
ITIL V3 Overview: Introduction to the ITIL V3 Framework	MFZLSISSH0
ITIL V3 Overview: Certification and Benefits	MFZLSRBLR0
Junior Level LPIC-1 Exam 101: Linux System Architecture	MFZLSRDHF0
Junior Level LPIC-1 Exam 101: Linux Installation	MFZLSWAPC0
Junior Level LPIC-1 Exam 101: Linux Package Management	MFZLSWBAM0
Junior Level LPIC-1 Exam 101: Unix Command Line	MFZLSWBSM0
Junior Level LPIC-1 Exam 101: File Management and Redirects	MFZLSWEPP0
Junior Level LPIC-1 Exam 101: Process Management	MFZRDSDBF0
Junior Level LPIC-1 Exam 101: Working With Text Files	MFZRDSDDS0
Junior Level LPIC-1 Exam 101: Partitions and File Systems	MFZRDSDKD0
Junior Level LPIC-1 Exam 101: File and Storage Administration	MFZRDSDPC0
Junior Level LPIC-1 Exam 102: Customize and Use the Linux Shell Environment	MFZRDSDESC0
Junior Level LPIC-1 Exam 102: User Interfaces and Desktops	MFZRDSRPF0
Junior Level LPIC-1 Exam 102: Manage Users and Group Accounts and Jobs in Linux	MFZRDSRPK0
Junior Level LPIC-1 Exam 102: Essential Linux System Services	MFZRDSRSO0
Junior Level LPIC-1 Exam 102: Linux Networking Fundamentals	MFZRDSMMC0
Junior Level LPIC-1 Exam 102: Basic Linux network troubleshooting	MGMT1401
Junior Level LPIC-1 Exam 102: Linux Security	MGMT1402
Junior Level LPIC-1 Exam 102: Linux Encryption	MGMT1403
Data Management - Localization - and Encryption in Linux	MGMT1404
Your Readiness	MGMT17A01
CO & Sr Enlisted Spouse Training - Official Communication	MGMT17A02
CO and Sr. Enlisted Spouse - Information and Referral	MGMT17A03
CO and Sr. Enlisted Spouse - Effective Information and Instruction	MOBACCA01
L.I.N.K.S. for Spouses, Parents & Extended Family- Introduction	MOBEXLA01

Course Name	Course Code
L.I.N.K.S. for Spouses, Parents & Extended Family - The Corps	MOBEXLA02
L.I.N.K.S. for Spouses, Parents & Extended Family - The Maze	MOBEXLA03
L.I.N.K.S. for Spouses, Parents & Extended Family - Pay Day	MOBEXLA04
L.I.N.K.S. for Spouses, Parents & Extended Family - Separation & Deployment	MOBEXLA05
L.I.N.K.S. for Spouses, Parents & Extended Family - Crossroads	MOBEXLA06
L.I.N.K.S. for Spouses, Parents and Extended Family - Getting Along	MOBEXLA07
L.I.N.K.S. for Spouses, Parents and Extended Family - Staying Marine	MOBEXLA08
L.I.N.K.S. for Spouses, Parents & Extended Family - Investing in your community	MOBEXLA09
L.I.N.K.S. for Spouses, Parents and Extended Family - Closing and Celebration	MOBEXLA10
L.I.N.K.S.4 Kids - Introduction	MOBEXLA11
L.I.N.K.S. 4 Kids - The Corps	MOBPPTA01
L.I.N.K.S. 4 Kids - My Hero Is Away	MOBPPTA02
L.I.N.K.S.4 Kids - Are You Plugged In?	MOBPPTA03
L.I.N.K.S. 4 Kids - Smooth Moves	MOBPPTA04
L.I.N.K.S. 4 Kids - Friends Rule	MOBWRDA01
L.I.N.K.S. 4 Kids - Community Connections	MOBWRDA02
L.I.N.K.S. 4 Kids - Celebration	MOBWRDA03
L.I.N.K.S. 4 Marines - Introduction	MOBWRDA04
L.I.N.K.S. for Marines - The Maze	MOBWRDA05
L.I.N.K.S. for Marines - Pay Day	MOBWRDA06
L.I.N.K.S. for Marines - Separation & Deployment	MOBWRDA07
L.I.N.K.S. for Marines - Crossroads	MOBWRDA08
L.I.N.K.S. for Marines - Getting Along	MOBWRDA09
L.I.N.K.S. for Marines - Staying Marine	MONSPEA01
L.I.N.K.S. for Marines - Closing and Celebration	MOOSPEA01
L.I.N.K.S. 4 Teens - Introduction	MOOSPPA02
L.I.N.K.S. 4 Teens - The Corps	MOSPEUA01
L.I.N.K.S. for Teens - The Maze	MOSPEUA02
L.I.N.K.S. 4 Teens - Show Me the Money	MOSPEUA03
L.I.N.K.S. 4 Teens - The Real Deal	MOSPPUA01
L.I.N.K.S. 4 Teens - Military Youth on the Move	MOSPPUA02
L.I.N.K.S. 4 Teens - Getting Along	MOSPPUA03
L.I.N.K.S. 4 Teens - Community	MOSPPUA04
L.I.N.K.S. 4 Teens - Celebration	MOSPPUA05
Conflict Management	MOSPPUA06
Interpersonal Communications	OPER04A02
Social Networking Safety	OPER04A03
Casualty Notification Process	OPER04A04
Safe & Sound at Home	OPER04A05

Course Name	Course Code
Building Lasting Relationships	OPER04A06
Developing Healthy Blended Families	OPER04A07
Aging Parents & Elder Care	OPER04A08
Basic Anger Management	OPER04A09
Basic Stress Management	OPER04A11
Emergency Preparedness	OPER0901
Pre-Deployment Brief	OPER0902
Mid-Deployment: Deployment Success	OPER0903
Mid-Deployment: Kids and Deployment	OPER10A01
Pre-deployment for Parents & Children	OPER28A01
Mid-Deployment: Self-Care	OPER28A02
Return and Reunion: Parents and Extended Family	OPER28A03
Return and Reunion: Parents and Kids	OPER29A03
P-19A Operator Licensing Course Remedial Exam	P19AEXAM1B
Return and Reunion: Spouses and Significant Others	PD1001
Reintegration: Strong Marine Couples	PD1002
Business Coaching: Getting Ready to Coach	PD1003
Business Coaching: Conducting Coaching Sessions	PD1004
Business Coaching: Building the Coaching Relationship	PD1005
Business Coaching: Using Different Coaching Styles	PD1201
Getting Started with Access 2010	PD1202
SharePoint 2010 New Features for End Users	PD1203
Navigating - Lists - Libraries - Alerts - and Document Sets in SharePoint 2013	PD1204
My Site and Social Features in SharePoint 2013	PD1205
Community Sites - Search - and Office Integration in SharePoint 2013	PD1206
Configuring Pages - Sites - and Content in SharePoint 2013	PD14A01
Configuring Lists - Libraries - Email - and Announcements in SharePoint 2013	PD14A02
Managing Templates - Views - and Versioning in SharePoint 2013	PD15A01
Managing Web Parts - Users - and Groups in SharePoint 2013	PD17A01
Using and Configuring Search in SharePoint 2013	PD18A01
Workflows - Collaboration - and Analysis in SharePoint 2013	PD18A02
Team Dynamics	PD18A03
Developing and Deploying Strategic Plans	PD23A01
Managerial Skills and Abilities	PD23A02
Communication Skills and Project Management	PD25A01
Quality Systems - Models - and Theories	PD25A02
Problem Solving and Process Management Tools	PD25A03
Measurement: Assessment and Metrics	PMPROJA04TP
Customer Focused Management	PROJ0801

Course Name	Course Code
Training and Development	PROJ08A01
Design of Experiments and Validation of Solutions in Six Sigma	PROJ0901
Statistical Process Control and Control Plans in Six Sigma	PROJ09A01
Using Basic Control Charts in Six Sigma	PROJ19A01
Introduction to Six Sigma	PROJ19A02
Design of Experiments in Six Sigma	PROJ19A03
Root Cause Analysis and Waste Elimination in Six Sigma	PROJ20A01
Cycle Time Reduction and Kaizen in Six Sigma	PROJ20A02
Lean Tools for Process Control in Six Sigma	PROJ20A03
Developing Your Reputation of Professionalism with Business Etiquette	PROJ21A01
Professionalism - Business Etiquette - and Personal Accountability	PROJ21A02
Communicating with Professionalism and Etiquette	PROJ21A03
Defining and Sequencing Project Activities	PROJ22A01
Defining and Sequencing Project Activities	PROJ22A02
Estimating and Budgeting Project Costs	PROJ22A03
Estimating and Budgeting Project Costs	PROJ23A01
Managing Projects within Organizations (PMBOK Guide Fifth Edition)	PROJ23A02
Project Management Overview (PMBOK Guide Fifth Edition)	PROJ24A01
Project Management Process Groups (PMBOK Guide Fifth Edition)	PROJ24A02
Integrated Initiation and Planning (PMBOK Guide Fifth Edition)	PROJ25A01
Direct - Monitor - and Control Project Work (PMBOK Guide Fifth Edition)	PROJ25A02
Controlling Changes and Closing a Project (PMBOK Guide Fifth Edition)	PROJ26A01
Project Requirements and Defining Scope (PMBOK Guide Fifth Edition)	PROJ26A02
Creating the Work Breakdown Structure (PMBOK Guide Fifth Edition)	PROJ27A01
Monitoring and Controlling Project Scope (PMBOK Guide Fifth Edition)	PROJ27A02
Defining and Sequencing Project Activities (PMBOK Guide Fifth Edition)	PROJ27A03
Estimating Activity Resources and Durations (PMBOK Guide Fifth Edition)	PROJ27A04
Developing and Controlling the Project Schedule (PMBOK Guide Fifth Edition)	PROJ28A01
Planning Project Costs (PMBOK Guide Fifth Edition)	PROJ28A02
Controlling Project Costs (PMBOK Guide Fifth Edition)	PROJ29A01
Plan Quality Management (PMBOK Guide Fifth Edition)	PROJ29A02
QuestionMark Video Test	QMTTestCourse
QMTTestCourse	QM-VIDEO-TEST
Retirement Choice PDF Document	Retirement Choice
Retirement Pay Calculator Tool	Retirement Pay Calculator Tool
Quality Assurance and Quality Control (PMBOK Guide Fifth Edition)	SDADCSA01
Planning Project Human Resources (PMBOK Guide Fifth Edition)	SDADCSA02
Managing Project Human Resources (PMBOK Guide Fifth Edition)	SDADCSA03
Plan and Manage Project Communications (PMBOK Guide Fifth Edition)	SDADCSA04

Course Name	Course Code
Control Project Communications (PMBOK Guide Fifth Edition)	SDADCSA05
Risk Management Planning (PMBOK Guide Fifth Edition)	SDADCSA06
Identifying Project Risks (PMBOK Guide Fifth Edition)	SDADCSA07
Performing Risk Analysis (PMBOK Guide Fifth Edition)	SDADCSA08
Risk Response and Control (PMBOK Guide Fifth Edition)	SDMASCA01
Planning Project Procurement Management (PMBOK Guide Fifth Edition)	SDMASCA01TP
Managing Procurements (PMBOK Guide Fifth Edition)	SDMASCA02
Project Stakeholder Management (PMBOK Guide Fifth Edition)	SDMASCA03
Managing and Controlling Stakeholder Engagement (PMBOK Guide Fifth Edition)	SDMASCA04
Getting Started With ADO.NET 4 Connections and Commands using C# 2010	SDMASCA05
Managing ADO.NET 4 Connections and Commands with C# 2010	SDMASCA06
Getting Started with ADO.NET 4 DataSets using C# 2010	SDMASCA07
Viewing and Navigating Data With ADO.NET 4 DataSets using C# 2010	SDMASCA08
Updating ADO.NET DataSets With C# 2010	SDWCCSA01
Synchronizing Data and Managing ADO.NET 4 Applications with C# 2010	SDWCCSA01TP
Working with the ADO.NET Entity Framework 4 Using C# 2010	SDWCCSA02
Using LINQ and XML with ADO.NET 4 and C# 2010	SDWCCSA03
Microsoft .NET Framework 4: Web Applications with Visual Studio 2010 and Visual C# 2010	SDWCCSA04
TestPrep 70-515 C# - TS: Web Applications Development with .NET 4	SPCISNA01
Microsoft.NET Framework 4: Web Form Controls with C# 2010	SPCISNA01TP
Microsoft .NET Framework 4: Data Integration with C# 2010	SPCISNA02
Microsoft .NET Framework 4: Client-Side Scripting and AJAX with C# 2010	SPCISNA03
Microsoft .NET Framework 4: ASP.NET MVC 2 with C# 2010	SPCISNA04
Microsoft .NET Framework 4: Configuring and Deploying Web Applications with C# 2010	SPCISNA05
Microsoft .NET Framework 4: Debugging - Tracing and Monitoring Web Applications with C# 2010	SPCISNA06
Microsoft .NET Framework 4: Web Application Optimization and Customization with C# 2010	SPCISNA07
Getting Started with WCF 4 using C# 2010	SPCISNA08
TestPrep 70-513 C# - TS: Windows Communication Foundation with .NET 4	SPCISNA09
WCF 4 Contracts - Behaviors - and Data Management Using C#	SPCISNA10
Securing and Managing a WCF 4 Application with C# 2010	SPCISNA11
Discovery - Routing - and RESTful Services in WCF 4 Applications with C#	SPCISNA12
CISM 2012: Information Security Governance (Part 1)	SPCISOA01
TestPrep Certified Information Security Manager (CISM)	SPCISOA02
CISM 2012: Information Security Governance (Part 2)	SPCISOA03
CISM 2012: Information Security Governance (Part 3)	SPCISOA04
CISM 2012: Information Risk Management and Compliance (Part 1)	SPCISOA05
CISM 2012: Information Risk Management and Compliance (Part 2)	SPCISOA06
CISM 2012: Information Security Program Development and Management (Part 1)	SPCISOA07
CISM 2012: Information Security Program Development and Management (Part 2)	SPCISOA08

Course Name	Course Code
CISM 2012: Information Security Program Development and Management (Part 3)	SPCISOA09
CISM 2012: Information Security Program Development and Management (Part 4)	SPCISOA10
CISM 2012: Information Security Program Development and Management (Part 5)	SPCISOA11
CISM 2012: Information Security Incident Management (Part 1)	SPCISOA12
CISM 2012: Information Security Incident Management (Part 2)	SPCPTEA01
CISM 2013: Information Security Governance (Part 1)	SPCPTEA02
CISM 2013: Information Security Governance (Part 2)	SPCPTEA03
CISM 2013: Information Security Governance (Part 3)	SPCPTEA04
CISM 2013: Information Risk Management and Compliance (Part 1)	SPCPTEA05
CISM 2013: Information Risk Management and Compliance (Part 2)	SPCPTEA06
CISM 2013: Information Security Program Development and Management (Part 1)	SPCPTEA07
CISM 2013: Information Security Program Development and Management (Part 2)	SPCPTEA08
CISM 2013: Information Security Program Development and Management (Part 3)	SPCPTEA09
CISM 2013: Information Security Program Development and Management (Part 4)	SPCPTEA10
CISM 2013: Information Security Program Development and Management (Part 5)	SPCPTFA01
CISM 2013: Information Security Incident Management (Part 1)	SPCPTFA02
CISM 2013: Information Security Incident Management (Part 2)	SPCPTFA03
CISSP 2012 Domain: Access Control	SPCPTFA04
CISSP 2012 Domain: Telecommunications and Network Security	SPCPTFA05
CISSP 2012 Domain: Information Security Governance and Risk Management	SPCPTFA06
CISSP 2012 Domain: Software Development Security	SPCPTFA07
CISSP 2012 Domain: Cryptography	SPCPTFA08
CISSP 2012 Domain: Security Architecture and Design	SPCPTFA09
CISSP 2012 Domain: Operations Security	SPCPTFA10
CISSP 2012 Domain: Business Continuity and Disaster Recovery Planning	SPCSSPA01TP
CISSP 2012 Domain: Legal - Regulations - Investigations - and Compliance	TASOLTR
CISSP 2012 Domain: Physical (Environment) Security	TEAM0201
CISSP 2013 Domain: Access Control	TEAM0202
CISSP 2013 Domain: Telecommunications and Network Security	TEAM0203
CISSP 2013 Domain: Information Security Governance and Risk Management	TEAM0204
CISSP 2013 Domain: Software Development Security	TEAM0205
CISSP 2013 Domain: Cryptography	TEAM0301
CISSP 2013 Domain: Security Architecture and Design	TEAM0302
CISSP 2013 Domain: Operations Security	TEAM0303
CISSP 2013 Domain: Business Continuity and Disaster Recovery Planning	TEAM0304
CISSP 2013 Domain: Legal - Regulations - Investigations - and Compliance	TEAM0305
CISSP 2013 Domain: Physical (Environment) Security	TEAM0306
TestPrep Certified Information Systems Security Professional (CISSP)	TEAM0307
Terminal Area Security Officer (TASO) Letter	TEAM0308

Course Name	Course Code
TestPrep Using Excel 2007	TPEX2007
TestPrep Using PowerPoint 2007	TPPP2007
TestPrep Using Word 2007	TPWD2007

LIST OF REFERENCES

- Alliger, G. M., Tannenbaum, S.I., Bennett Jr., W., Traver, H., & Shotland, A. (1997). A meta-analysis of the relations among training criteria. *Personnel Psychology*, 50(2), 341–358. Retrieved from <http://search.proquest.com/docview/619080422?accountid=12702>
- Anderson, T. (2003). Modes of interaction in distance education: Recent developments and research questions. In M. G. Moore (Ed.), *The handbook of distance education* (1st ed.). (pp. 663–671). Mahway, NJ: Lawrence Erlbaum Associates, Publishers.
- Appana, S. (2008). A review of benefits and limitations of online learning in the context of the student, the instructor, and the tenured faculty. *International Journal on ELearning*, 7(1), 5–22. Retrieved from <http://search.proquest.com/docview/210364167?accountid=12702>
- Artino, Anthony R., Jr. (2007). Online military training: Using a social cognitive view of motivation and self-regulation to understand students' satisfaction, perceived learning, and choice. *Quarterly Review of Distance Education*, 8(3), 191–202, 293. Retrieved from <http://search.proquest.com/docview/231066149?accountid=12702>
- Baldwin, T. T., Magjuka, R. J., & Loher, B. T. (1991). The perils of participation: Effects of choice of training on trainee motivation and learning. *Personnel Psychology*, 44(1), 51–65. Retrieved from <http://search.proquest.com/docview/220134114?accountid=12702>
- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research*, 79(3), 1243–1289. Retrieved from <http://search.proquest.com/docview/214121520?accountid=12702>
- Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., Wallett, P., Fiset, M., & Huang, B. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research*, 74(3), 379–439. doi 10.3102/00346543074003379
- Bloom, B. S. (1956). *Taxonomy of educational objectives: Cognitive domain* (Vol 1), pp. 62–197. New York, NY: McKay.
- Brown, M. (2014, July 10). *Content design and development guidelines* (Ver. 10.0). Suffolk, VA: Joint Knowledge Online.

- Dalziel, C. (2003). Community colleges and distance education. In M. G. Moore (Ed.), *The handbook of distance education* (1st Ed.), pp. 663–671. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.
- Department of Defense (1999, April 30). *Report to the 106th Congress: Department of Defense strategic plan for advanced distributed learning*. Washington, DC: Office of the Under Secretary of Defense for Personnel and Readiness. Retrieved from http://prhome.defense.gov/portals/52/documents/rfm/readiness/docs/adl_stratplan.pdf
- Department of Defense (2001a, August 31). *Department of Defense handbook: Glossary for training*. (MIL-HDBK-29612-4A). Washington, DC: Author. Retrieved from <http://www.navair.navy.mil/nawctsd/Resources/Library/Acqguide/296124a.pdf>
- Department of Defense (2001b, August 31). *Department of Defense handbook: Development of interactive multimedia instruction*. (MIL-HDBK-29612-3A). Washington, DC: Author. Retrieved from <http://www.navair.navy.mil/nawctsd/Resources/Library/Acqguide/296123a.pdf>
- Department of Defense. (2005, December 19). *Information assurance workforce improvement program*. (DOD 8570.01-M). Washington, DC: Assistant Secretary of Defense for Networks and Information Integration. Retrieved from <http://www.dtic.mil/whs/directives/corres/pdf/857001m.pdf>
- Department of Defense. (2012, March 1). *DOD Antiterrorism (AT) program*. (DODI 2000.12). Washington, DC: Under Secretary of Defense for Policy. Retrieved from <http://www.dtic.mil/whs/directives/corres/pdf/200012p.pdf>
- Department of Defense. (2013, September 25). *DOD civilian personnel management system: Training, education, and professional development*. (DODI 1400.25, Vol. 410). Washington, DC: Under Secretary of Defense for Personnel and Readiness. Retrieved from <http://www.dtic.mil/whs/directives/corres/pdf/140025v410.pdf>
- Department of Defense. (2014, January 16). *DOD workplace violence prevention and response policy*. (DODI 1438.06). Washington, DC: Under Secretary of Defense for Personnel and Readiness. Retrieved from <http://www.dtic.mil/whs/directives/corres/pdf/143806p.pdf>
- Department of Education (2009, May). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. Washington, DC: Office of Planning, Evaluation, and Policy Development. Retrieved from <http://eric.ed.gov/?id=ED505824>

- Department of the Navy. (2007, November 16). *Department of the Navy records management program: Records management manual*. (SecNav M-5210.1). Washington, DC: Department of the Navy Chief Information Officer. Retrieved from <http://www.marines.mil/Portals/59/Publications/SECNAV%20M-5210.1.pdf?ver=2012-10-11-164111-747>
- Department of the Navy. (2010, April 14). *Combating trafficking in persons* (OPNAVINST 5300.11). Washington, DC: Office of the Chief of Naval Operations. Retrieved from <https://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-300%20Manpower%20Personnel%20Support/5300.11.pdf>
- Diehl, W. C. (2013). Charles A. Wedemeyer: Visionary pioneer of distance education. In M. G. Moore (Ed.), *The handbook of distance education* (3rd Ed.), pp. 38–48. New York, NY: Routledge.
- Executive Order No. 13111, 3 C.F.R. 13111 (1999). Reprinted (codified in U.S.C.) reprinted as amended in 5 U.S.C. 4101 at 5701–5707 and Chap. 41 (2000).
- Foley, M. (2003). The global development learning network: A World Bank initiative in distance learning for development. In M. G. Moore (Ed.), *The handbook of distance education* (1st Ed.), pp. 663–671. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.
- Gagné, R. M. (1984). Learning outcomes and their effects: Useful categories of human performance. *American Psychologist*, 39(4), 377–385. doi: 10.1037/0003-066X.39.4.377
- Galloway, D. L. (2005). Evaluating distance delivery and e-learning: Is Kirkpatrick's model relevant? *Performance Improvement*, 44(4), 21–27. Retrieved from <http://search.proquest.com/docview/237243937?accountid=12702>
- Gold, L. & Albert, L. (2006). Graduation rates as a measure of college accountability. *American Academic*, 2(1), 89–106. Retrieved from <http://www.shawnee.edu/retention/media/Graduation-Rates-Accountability.pdf>
- Guri-Rosenblit, S. (2005). 'Distance education' and 'e-learning': Not the same thing. *Higher Education*, 49(4), 467–493. doi: 10.1007/s10734-004-0040-0
- Harting, K., & Erthal, M. J. (2005). History of distance learning. *Information Technology, Learning, and Performance Journal*, 23(1), 35–44. Retrieved from <http://search.proquest.com/docview/219815808?accountid=12702>
- Hartnett, M., St. George, A., & Dron, J. (2011). Examining motivation in online distance learning environments: Complex, multifaceted and situation-dependent. *The International Review of Research in Open and Distributed Learning*, 12(6), 20–38. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/1030/1988>

Health Promotion, 32 C.F.R. Vol. 1, Sec. 85.6 (2003).

Hicks, W. D., & Klimoski, R. J. (1987). Entry into training programs and its effects on training outcomes: A field experiment. *Academy of Management Journal*, 30(3), 542. Retrieved from <http://search.proquest.com/docview/199801409?accountid=12702>

Howell, S. L., Laws, R. D., & Lindsay, N. K. (2004). Reevaluating course completion in distance education: Avoiding the comparison between apples and oranges. *Quarterly Review of Distance Education*, 5(4), 243–252, 309–310. Retrieved from <http://search.proquest.com/docview/231203268?accountid=12702>

Jones, S. M., Mally, W., Blevins, L. A., & Munroe, J. E. (2003). The U.S. Marine Corps distance learning program. In M. G. Moore (Ed.), *The handbook of distance education* (1st Ed.), pp. 641–654. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.

Jung, I. (2003). Cost-effectiveness of online education. In M. G. Moore (Ed.), *The handbook of distance education* (1st Ed.), pp. 663–671. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.

Kanfer, R., & McCombs, B.L. (2000). Motivation: Applying current theory to critical issues in training. In S. Tobias & F. D. Fletcher. (2000). *Training & retraining: A handbook for business, industry, government, and the military*. New York: Macmillan Reference USA.

Kearsley, G. (2013). Management of online programs. In M. G. Moore (Ed.), *The handbook of distance education* (3rd Ed.), pp. 425–436. New York, NY: Routledge.

Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook* (4th Ed.), p. 17. Upper Saddle River, NJ: Pearson Prentice Hall.

Kirkpatrick, D. L. (1979). Techniques for evaluating training programs. *Training & Development Journal*, 33(6), 78. Retrieved from <http://web.b.ebscohost.com.libproxy.nps.edu/ehost/pdfviewer/pdfviewer?sid=1fd7c22a-c7bd-4ce8-a083-86114bb37f60%40sessionmgr113&vid=1&hid=107>

Klein, H.J., Noe, R.A., & Wang, C. (2006). Motivation to learn and course outcomes: The impact of delivery mode, learning goal orientation, and perceived barriers and enablers. *Personnel Psychology*, 59(3), 665–702. Retrieved from <http://search.proquest.com/docview/220142349?accountid=12702>

Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology*, 78(2), 311–328. doi: 10.1037/0021-9010.78.2.311

- Marine Corps University. (2016, March). Regional, cultural, and language familiarization: FAQs. Retrieved from <http://www.mcu.usmc.mil/caocl/SitePages/faq.aspx>
- MarineNet. (2012a). MarineNet courseware development standards, (Ver 2.0). Retrieved from https://www.mcu.usmc.mil/cdet/docs/courseware/MarineNet_Courseware_Development_Technical_Standards_v2-0.pdf?mobile=0
- MarineNet. (2012b). Off-the-shelf learning solutions. Retrieved from <https://www.mcu.usmc.mil/cdet/docs/courseware/Off-the-Shelf%20Learning%20Solutions.pdf?mobile=0>
- MarineNet. (2015). MarineNet hosting: Frequently asked questions, July 2015. Retrieved from https://www.mcu.usmc.mil/cdet/docs/courseware/MarineNet%20Hosting%20FAQs_20150723.pdf
- MarineNet. (2016). Course catalog. Retrieved May 5, 2016 from <https://www.marinenet.usmc.mil/MarineNet/Courses/Catalog.aspx>.
- Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and situational characteristics on measures of training effectiveness. *Academy of Management Journal*, 35(4), 828. Retrieved from <http://search.proquest.com/docview/199805905?accountid=12702>
- Moody, J. (2004). Distance education: Why are the attrition rates so high? *Quarterly Review of Distance Education*, 5(3), 205–210, 228. Retrieved from <http://search.proquest.com/docview/231068512?accountid=12702>
- Moore, M. G. (1989). Editorial: Three types of interaction. *American Journal of Distance Education*, 3(2), 1–7. doi:10.1080/08923648909526659
- Moore, M. G., & Kearsley, G. (2012). *Distance education: A systems view of online learning* (3rd Ed.). Belmont, CA: Wadsworth Cengage Learning.
- Naidu, S. (2013). Instructional design models for optimal learning. In M. G. Moore (Ed.), *The handbook of distance education* (3rd Ed.), pp. 268–281. New York, NY: Routledge.
- National Institute of Standards and Technology. (1996). *Dataplot reference manual: LET subcommands and library* (Vol. 2). Gaithersburg, MD: Author. Retrieved from <http://www.itl.nist.gov/div898/software/dataplot/refman2/ch2/weightsd.pdf>
- Noe, R. A., & Schmitt, N. (1986). The influence of trainee attitudes on training effectiveness: Test of a model. *Personnel Psychology*, 39(3), 497. Retrieved from <http://search.proquest.com/docview/220127052?accountid=12702>

- Park, L. C., Boman, J., Care, D. W., Edwards, M., & Perry, B. (2009). Persistence and attrition: What is being measured? *Journal of College Student Retention: Research, Theory & Practice*, 10(2), 223–233. Retrieved from <http://search.proquest.com/docview/62010431?accountid=12702>
- Parker, A. (1999). Interaction in distance education: The critical conversation. *Educational Technology Review*, 12(12), pp. 13–17. Retrieved from <http://search.proquest.com/docview/62397564?accountid=12702>
- Rosenberg, M. J. (2001). *E-Learning: Strategies for delivering knowledge in the digital age*. New York, NY: McGraw-Hill.
- Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *Internet and Higher Education*, 6(1), 1–16. Retrieved from <http://search.proquest.com/docview/62234399?accountid=12702>.
- Ryan, R. M., & Deci, E. L. (2000a). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. doi: 10.1006/ceps.1999.1020
- Ryan, R. M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. doi: 10.1037/0003-066X.55.1.68
- Schlosser, L., & Simonson, M. (2006). *Distance education: Definition and glossary of terms* (2nd Ed.). Charlotte, NC: Information Age Publishing.
- Shute, V. J., Lajoie, S. P., & Gluck, K. A. (2000). Individualized and group approaches to training. In S. Tobias & F. D. Fletcher. *Training & retraining: A handbook for business, industry, government, and the military*. New York: Macmillan Reference USA.
- Simonson, M., Schlosser, C., & Orellana, A. (2011). Distance education research: A review of the literature. *Journal of Computing in Higher Education*, 23(2), 124–142. doi: 10.1007/s12528-011-9045-8
- Simonson, M., Smaldino, S., Albright, M. & Zvacek, S. (2009). *Teaching and learning at a distance* (4th Ed.). New York, NY: Pearson Education, Inc.
- Strom Thurmond National Defense Authorization Act of 1999, P. Law No 105–261, Sect. 378. (1998). Retrieved from <https://www.gpo.gov/fdsys/pkg/PLAW-105publ261/pdf/PLAW-105publ261.pdf>
- Student Right to Know Act of 1990, P. Law No. 101–542 Sect. 103, 104 Stat. 2382 (1990). Retrieved from <https://www.gpo.gov/fdsys/pkg/STATUTE-104/pdf/STATUTE-104-Pg2381.pdf>

- Su, B., Bonk, C. J., Magjuka, R. J., Liu, X., & Lee, S. (2005). The importance of interaction in web-based education: A program-level case study of online MBA courses. *Journal of Interactive Online Learning*, 4(1), 1–19. Retrieved from <http://search.proquest.com/docview/1720064403?accountid=12702>
- Tannenbaum, S. I., Mathieu, J. E., Salas, E., & Cannon-Bowers, J. (1991). Meeting trainees' expectations: The influence of training fulfillment on the development of commitment, self-efficacy, and motivation. *Journal of Applied Psychology*, 76(6), 759–769. Retrieved from <http://search.proquest.com/docview/614301423?accountid=12702>
- Thompson, M., & Irele, M. (2003). Evaluating distance education programs. In M. G. Moore (Ed.), *The handbook of distance education* (1st Ed.), p. 567. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.
- Tobias, S. & Fletcher, F. D. (2000). *Training & retraining: A handbook for business, industry, government, and the military*. New York: Macmillan Reference USA.
- United States Marine Corps. (2003, January 22). Marine Corps distance learning strategic plan. Retrieved from <https://www.mcu.usmc.mil/cdet/docs/program/strategicplan.pdf>
- United States Marine Corps. (2008, January 25). *Professional Military Education (PME)*. (Marine Corps Order 1553.4B). Quantico, VA: Author. Retrieved from <http://www.marines.mil/Portals/59/MCO%201553.4B.pdf>
- United States Marine Corps. (2014, October 16). *Updated enlisted promotion requirements by grade and announcement of command-sponsored lance corporal leadership-ethics and career course seminar*. (Marine Corps Administrative Message 521/14). Quantico, VA: Author. Retrieved from <http://www.marines.mil/News/Messages/tabid/13074/Article/171753/updated-enl-pme-prom-reqrs-by-gde-and-announcement-of-cmd-sponsored-lcpl-ldrshi.aspx>
- United States Marine Corps. (2015, February 20). *MCBUL 1500: Annual training and education requirements*. (Marine Corps Bulletin 1500). Quantico, VA: Author. Retrieved from <http://www.marines.mil/Portals/59/Publications/MCBUL%201500%20DTD%2020FEB15.pdf>
- United States Marine Corps College of Distance Education and Training. (2012, July 18). *MarineNet courseware development technical standards* (Ver. 2.0). Quantico, VA: Author. Retrieved from <https://www.mcu.usmc.mil/cdet/SitePages/courseware.aspx>

- Vahdat, M., Ghio, A., Oneto, L., Anguita, D., Funk, M., & Rauterberg, M. (2015, April 22–24). Advances in learning analytics and educational data mining, pp. 297–306. Presented at the 23rd European symposium on artificial neural networks, computational intelligence, and machine learning, University of Louvain Press: Bruges, Belgium.
- Wagner, E. D. (1994). In support of a functional definition of interaction. *American Journal of Distance Education*, 8(2), 6–26. Retrieved from <http://search.proquest.com/docview/62719264?accountid=12702>
- West, R. E, Hannafin, M. J., Hill, J. R., & Song, L. (2013). Cognitive perspectives on online learning environments. In M. G. Moore (Ed.), *The handbook of distance education* (3rd Ed.) pp. 38–48. New York, NY: Routledge.
- Wisher, R. A. & Champagne, M.V. (2000). Distance education and training: An evaluation perspective. In S. Tobias & F.D. Fletcher (Eds.), *Training and retraining: A handbook for business, industry, government, and the military*, p. 388. New York: Macmillan Reference USA.
- Wuensch, K. L., Aziz, S., Ozan, E., Kishore, M., & Tabrizi, M. H. N. (2008). Pedagogical characteristics of online and face-to-face classes. *International Journal on ELearning*, 7(3), 523–532. Retrieved from <http://search.proquest.com/docview/210330787?accountid=12702>
- Zhang, D. (2005). Interactive multimedia-based e-learning: A study of effectiveness. *The American Journal of Distance Education*, 19(3), 149–162. doi 10.1207/s15389286ajde1903_3

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California