



FORT LEONARD WOOD, MO  
NONCOMMISSIONED OFFICERS ACADEMY  
SYLLABUS FOR 12C30  
ADVANCED LEADER COURSE



# BRIDGE CREWMEMBER ALC

## **Purpose:**

To train Multi Role Bridge Company section sergeants to lead, train and direct subordinates to maintain, operate and employ weapons and equipment, including force protection through the use of risk management.

## **Course Scope:**

Students will demonstrate proficiency in demolitions, reconnaissance, fixed and float bridging, offensive and defensive operations

## **Course Prerequisites:**

Active Army or Reserve Component enlisted personnel selected by DA (Active Army) or recommended by unit Commander (Reserve Component). Qualified in MOS 12C. Meets requirements outlined in AR 350-1 (para 3-8) and DA Pam 611-21. All soldiers must have successfully completed the Warrior Leader Course (WLC) at least six months before attending this course.



# BRIDGE CREWMEMBER ALC



**Security Clearance:** Unclassified

**Course Length–Weeks:** 6      **Days:** 0      **Hours:** 261

**Class Sizes – Optimum:** 32      **Min:** 24      **Max:** 32

**Administrative Time:**

**Module: A / 001**                      1.0

**Title:**    Mandatory Training

**Academic Time:**

**Module: B / 001**                      35.5

**Title:**    Demolitions

**Module: C / 001**                      32.7

**Title:**    Reconnaissance

**Module: D / 001**                      35.7

**Title:**    Fixed Bridging



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**Module: E / 001** 19.3

**Title: Float Bridging**

**Module: F / 001** 11.0

**Title: Explosive Hazards**

**Module: G / 001** 77.6

**Title: Combined Arms/Tactical Training**

**Module: H / 001** 19.2

**Title: Combat Tactics**

**Module: I / 001** 28

**Title: Administrative**

**Total:** 260



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**Module:** A / 1

**Title:** Mandatory Training

**Purpose:** The purpose of this module is to get Soldiers in-processed and to ensure all required administrative documents are completed and all necessary references, training aids are issued to each student.

**Remarks:** None

**Technique(s) of Delivery:**

Small Group Instruction (SGI) (SG)

**Hours**

1.0

**Security Clearance:** Unclassified

**Module:** B / 1

**Title:** Demolitions

**Purpose:** This module provides instruction on how to calculate timber-cutting charges, steel-cutting charges, breaching charges, and explosive requirements for road craters. It also discusses how to employ bridge demolitions and preparation of a demolitions reconnaissance report. The Module concludes with an examination on demolitions.

**Remarks:** None

**Technique(s) of Delivery:**

Small Group Instruction (SGI) (SG)

**Hours**

35.5

**Security Clearance:** Unclassified

**Lesson Title:** Calculate Timber-Cutting Charges

**References:** FM 3-34.214 Explosives and Demolitions (Pg. 3-1 thru 3-10)

**Lesson Title:** Calculate Steel-Cutting Charges

**References:** FM 3-34.214 Explosives and Demolitions (Pg. 3-9 thru 3-17)

**Lesson Title:** Calculate Breaching Charges

**References:** FM 3-34.214 Explosives and Demolitions (Ch. 3, Section IV)

**Lesson Title:** Calculate Explosive Requirement For Road Crater

**References:** FM 3-34.214 Explosives and Demolitions (Pg. 3-23 thru 3-29)



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- Lesson Title: Employ Bridge Demolitions  
References: FM 3-34.214 Explosives and Demolitions (Ch. 4, Appendix F & H), FM 5-34 Pg. 9-25 thru 9-40
- Lesson Title: Conduct a Demolitions Reconnaissance  
References: FM 3-34.214 Explosives and Demolitions (pg. 5-5,5-6, Annex I)
- Lesson Title: Demolitions Examination  
References: FM 3-34.214 Explosives and Demolitions (Ch. 3 thru 5, Appendix G thru J and student handout)
- Lesson Title: Direct Urban Breaching Operations  
References: FM 3-34.214 Explosives and Demolitions (pg. 2-8, Ch. 3 & 7)
- Lesson Title: Urban Breaching Operations Examination  
References: FM 3-34.214 Explosives and Demolitions (pg. 2-8, Ch. 3 & 7)

**Module:** C / 1

**Title:** Reconnaissance

**Purpose:** This module provides instruction on reconnaissance reporting. It provides information on extracting information from mission directives, gathering critical information, and completing reconnaissance reports on roads, tunnels, bridges, and fords. It also provides information on completing the Engineer Reconnaissance Report and reconnaissance overlays. The Module concludes with an examination on Reconnaissance.

**Remarks:** None

**Technique(s) of Delivery:**

Small Group Instruction (SGI) (SG)

**Hours**

32.7

**Security Clearance:** Unclassified

- Lesson Title: Conduct a Road Reconnaissance  
References: FM 3-34.170 Reconnaissance (Ch. 3 & 5)
- Lesson Title: Conduct a Tunnel Reconnaissance  
References: FM 3-34.170 Reconnaissance (Ch. 5 & Appendix B)
- Lesson Title: Conduct a Ford Reconnaissance  
References: FM 3-34.170 Reconnaissance (Ch. 6 & Appendix B)
- Lesson Title: Conduct a Bridge Reconnaissance  
References: FM 3-34.170 Reconnaissance (Ch. 5)



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- Lesson Title: Conduct a River Reconnaissance
- References: FM 3-34.170 Reconnaissance (Ch. 5)
- Lesson Title: Conduct an Obstacle Reconnaissance
- References: FM 3-34.170 Reconnaissance (Ch. 1,4 & Appendix C)
- Lesson Title: Conduct an Engineer Reconnaissance
- References: FM 3-34.170 Reconnaissance (Ch. 3)
- Lesson Title: Conduct a Route Reconnaissance
- References: FM 3-34.170 Reconnaissance (Ch. 3,4 & 5)
- Lesson Title: Reconnaissance Examination
- References: FM 3-34.170 Reconnaissance

**Module: D / 1**

**Title:** Fixed Bridging

**Purpose:** This module provides instruction on Fixed Bridging types and method for employing the Bailey Bridge, Mabey Johnson Bridge, Dry Support Bridge. This model includes practical exercises on the Bailey and Dry Support Bridge.

**Hours**

**32.7**

- Lesson Title: Direct Assembly of a Bailey Bridge
- References: \*\*=====
- Lesson Title: Organize Duties of Medium Girder Bridge Assembly Crews
- References: \*\*=====
- Lesson Title: Direct Site Layout for Medium Girder Bridge
- References: \*\*=====
- Lesson Title: Direct Assembly of a Medium Girder Bridge
- References: \*\*=====
- Lesson Title: Supervise Fixed Bridge Maintenance
- References: \*\*=====
- Lesson Title: Fixed Bridge Examination
- References: \*\*=====
- Lesson Title: Direct Deployment of Dry Support Bridge Launch Vehicle
- References: \*\*=====
- Lesson Title: Direct Assembly of the Dry Support Bridge
- References: \*\*=====



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**Module:** E / 001

**Title:** Float Bridging

**Purpose:** This module provides instruction on Float Bridging with a Ribbon Bridge and how to direct Rafting Operations as a Raft Commander. This module includes a practical exercise for rafting on the Mark 2.

**Hours**

**19.3**

Lesson Title: Direct Assembly of a Ribbon Bridge

References: \*\*=====

Lesson Title: Direct Assembly of a Ribbon Bridge Raft

References: \*\*=====

Lesson Title: Direct Rafting Operations as Raft Commander

References: \*\*=====

**Module:** F / 001

**Title:** Explosive Hazards

**Purpose:** This module provides instruction on; Explosive Hazards, Installation of minefields, and breaching tenants. The Module concludes with an examination on Explosive hazards.

Lesson Title: Supervise the Installation of a Controlled Area

References: FM 3-34.170 Reconnaissance

Lesson Title: Conduct Counter Explosive Hazards Clearance Operations

References: FM 3-34.170 Reconnaissance

Lesson Title: Prepare for Improvised Explosive Device Threats Prior to Movement

References: FM 3-34.170 Reconnaissance

Lesson Title: Organize Military Search Teams

References: FM 3-34.170 Reconnaissance



# BRIDGE CREWMEMBER ALC



**Module:** G / 1

**Title:** Combined Arms/Tactical Training

**Purpose:** This module provides Soldiers the opportunity to practice combat engineer skills, and leadership skills taught during the course in a tactical field environment. Rotating students in position of leadership responsibility within each group too enhance leadership abilities.

**Remarks:** None

**Technique(s) of Delivery:**

Small Group Instruction (SGI) (SG)

Training Aid (TA)

**Hours**

87.8

**Security Clearance:** Unclassified

**Lesson Title:** Prepare an Oral Operations Order (OPORD)

**References:** ADP 5-0, ADRP 5-0, ATTP 5-0.1

**Module:** H / 1

**Title:** Combat Tactics

**Purpose:** This module rounds out the warrior training for the combat engineer Soldier. The module provides instruction on calling for and directing fire and addresses the Battle Command Systems (FBCB2).

**Remarks:** None

**Technique(s) of Delivery:**

Simulator (SO)

**Hours**

19.2

**Security Clearance:** Unclassified

**Lesson Title:** Call For and Adjust Indirect Fires Applications

**References:** FM 6-30 & TM 3-34.85



# BRIDGE CREWMEMBER ALC



**Module:** H / 1

**Title:** Administrative Annex

**Purpose:** To provide time to conduct administrative activities. To include in-processing, out-processing, one record Army Physical Fitness Test, book issue/turn in, CIF issue/turn in, graduation and student counseling.

**Remarks:** None

**Technique(s) of Delivery:**

Small Group Instruction (SGI) (SG)

**Hours**

28.0

**Security Clearance:** Unclassified

**Total Hours:** 261



# **BRIDGE CREWMEMBER ALC**



## **Written Examinations**

**Demolitions Exam  
Reconnaissance Exam  
Fixed Bridging Exam  
Float Bridge Exam**

## **Hands-on Examinations**

**Reconnaissance Exam**

## **Evaluations**

**APFT  
PRT Instruction  
Operational Environment Brief  
Student Led Discussion  
Oral Engineer History Brief  
In Ranks Inspection  
Tactical Leadership  
APA Essay  
Formal Memorandum (2)  
Garrison Leadership**