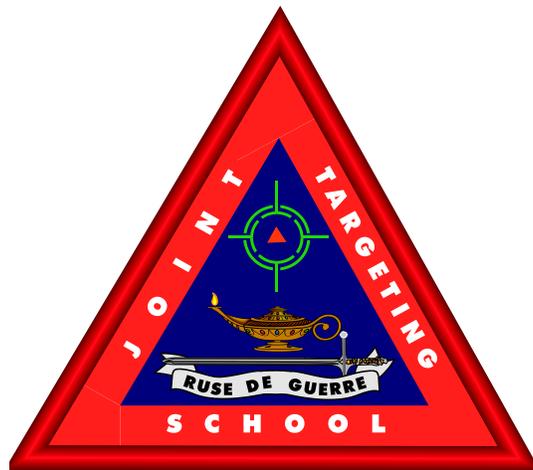


# Joint Battle Damage Assessment Course Syllabus

October 2015



Joint Targeting School

Joint Staff, J7

**The Joint Staff  
Joint Targeting School  
2088 Regulus Avenue  
Virginia Beach, VA 23461-2099**

**Joint Training Course Joint  
Battle Damage Assessment  
course**

**October 2015**

**INTRODUCTION**

Joint Staff J-7 is the lead agent for this joint training course syllabus, which is authorized for issue by the Joint Targeting School. This syllabus is directive in nature and prescribes the overall training strategy and amount of instruction required for a student with the entry prerequisites to attain course goals and graduate. Units tasked to implement this syllabus will ensure each student graduated possesses the knowledge, skills and proficiencies set forth in the course training standards. Within the syllabus and other directive constraints, the amount and level of training devoted to mission elements, events, subjects or phases should be adjusted as required to meet individual student needs. Instructions governing publication and revision of this syllabus are contained in *CJCSM 3162.01, Joint Methodology for Battle Damage Assessment*. This syllabus does not take precedence over applicable governing directives.



Derek C. Oakley  
Lt Col, USAF  
JTS Director

# Chapter 1

## Course Description

1. **Title:** Joint Battle Damage Assessment Course
2. **Course Joint Certification Date:** 06 March 2014
3. **Certification Expiration Date:** 06 March 2017
4. **Course Identifiers**
  - a. **Joint “S” Code:** S357
  - b. **USA CIN:** 303JTS003
  - c. **USAF CIN:** X50ZN14N3—OB6A
  - d. **USMC CIN:** N46HFQ3
  - e. **USN CIN:** S-3A0004
  - f. **FMS MASL:** P122024
5. **Objective:** The Joint Battle Damage Assessment (BDA) course provides procedures, techniques and methodology for the joint BDA process. Methodologies employed to accurately assess and communicate the effectiveness of military force delivered against a variety of targets and target models are presented in a lecture and exercise format. The target audience for the BDA course is personnel involved in the BDA process from all services, COCOMS, and defense agencies.
6. **Location:** 2088 Regulus Avenue, Virginia Beach, VA 23461-2099
7. **Duration:** 5 training days.
8. **Entry Prerequisites:**
9. **Status Upon Graduation:** Graduates are awarded 1.0 Joint Qualification Officer Points and receive Certificates of Completion.
10. **Academic Training**

	<i>hours</i>
a. <b>JTS Instruction (lecture)</b>	<b>29</b>
b. <b>JTS facilitated practical exercises</b>	15
c. <b>Out-of-class reading</b>	0
d. <b>Student-led briefings</b>	5
e. <b>Academic evaluation</b>	1
<b>Total Approximate Course Hours</b>	<b>40</b>

## Chapter 2

### Course Administration

#### Section A - Syllabus Management

1. **Syllabus Interpretation:** This syllabus is directive and must be followed as written. When available JTS will make available guest lecturers to augment course material.
2. **Syllabus Waiver:** All syllabus waivers must be approved by the Director, JTS. In all instances JTS will strive to maintain course content while not extending training past the scheduled training dates.
3. **Syllabus Review:** JTS conducts syllabus reviews on an annual basis or as directed by the Director, JTS. Following syllabus review, the Director, JTS approves any syllabus modification
4. **Syllabus Content.**
  - a. **Updates:** Course managers approve all lesson updates prior to course presentation.
  - b. **Modification:** The Director, JTS approves all syllabus modifications and lesson additions prior to course inclusion.
  - c. **Frequency of Review:** JTS reviews syllabus content on an annual basis. JTS executes additional content review when lesson references are updated.

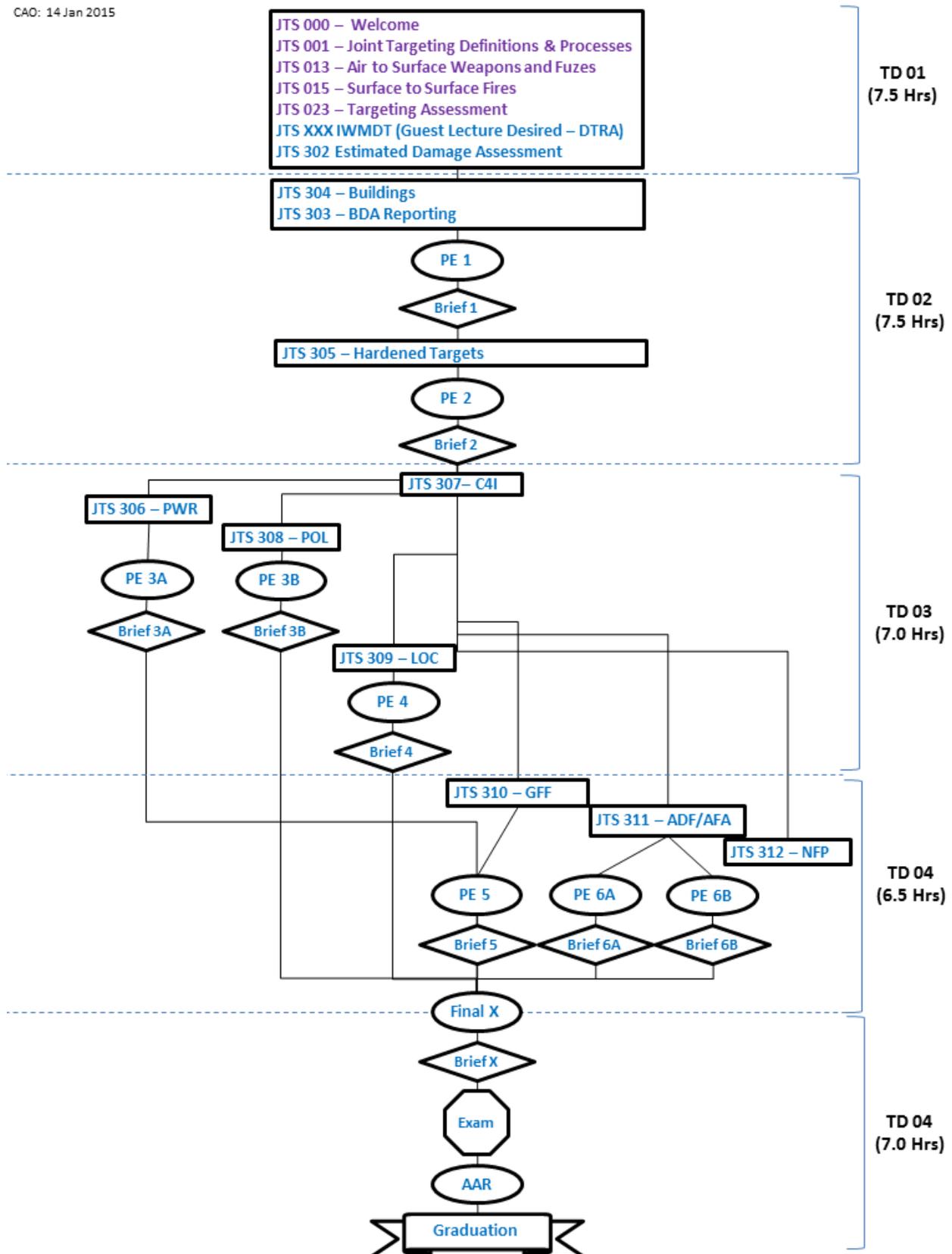
#### Section B - Training Management

1. **Course Manager Responsibilities:** The Director, JTS designates course managers. The course manager is responsible for monitoring the content of the assigned course. Prior to course start, the course manager approves the course schedule and flow of events.
2. **Instructor Responsibilities.**
  - a. **Lecture:** Instruction will not exceed 60 minutes without a scheduled break. Individual classes may decide to extend instruction past 60 minutes without a break.
  - b. **Practical Exercises:** JTS instructors will facilitate practical exercise discussion and work. In order to enhance the joint environment, JTS Instructors will not provide answers until student debriefs to practical exercises. Students are expected to collaborate and use the information provided to make an informed decision.
3. **Course Standards:** Students must achieve a minimum of 80% on the administered exam. Students are expected to attend all blocks of instruction and actively contribute to practical exercises.
4. **Unsatisfactory Performance**
  - a. **Exam Failure:** If a student fails to achieve at least an 80% on an exam, they will be remediated on the exam material and be allowed to re-take the exam. Students are given one re-attempt for exam scores below 80%. Failure of a subsequent exam will result in failure of the course. Students are authorized one re-attempt for the course. In the case of failing the course, students will receive a Certificate of Completion for the Joint Battle Damage Assessment Familiarization Course. This certificate will not award students Joint Qualification Officer Points or count as completion for the Course Identification Number for the respective services.
  - b. **Unexcused Absences:** 2 unexcused absences will result in removal from the course.
  - c. **Security Violation:** All Security violations will be dealt with on an individual basis and may result in removal from the course.

# Chapter 3

## JTS BDA Course Flow

CAO: 14 Jan 2015



## Chapter 4

### Lesson Descriptions

<b>Lesson ID</b>	<b>Lesson Name</b>	<b>Duration</b>
<b>JTS 000</b>	<b>Welcome</b>	1.0
<i>Terminal Learning Objectives:</i>		
Introduce JTS instructors and outline course expectations. Identify a class leader and facilitate student introductions.		
<b>JTS 013</b>	<b>Air-to-Surface Weapons and Fuzes</b>	1.0
<i>Terminal Learning Objectives:</i>		
Identify proper warhead, weapon, and fuze terminology and have a basic understanding of the various air to surface weapons available for targeting		
<i>Enabling Learning Objectives:</i>		
Understand the basic characteristics and purposes of different types of warheads		
Understand the basic characteristics and purposes of different types of fuzes		
Explain the differences between the weapon families and the advantages and disadvantages of employment		
Have a basic understanding of some of the most common air to surface weapons		
<b>JTS 015</b>	<b>Surface-to-Surface Fires</b>	1.0
<i>Terminal Learning Objectives:</i>		
Identify current capabilities and limitations of the surface-to-surface assets available to an operational-level targeteer/planner		
<i>Enabling Learning Objectives:</i>		
Describe the capabilities of surface-to-surface weapons platforms		
Identify surface-to-surface precision guidance munitions capabilities		
Describe the primary effects for munitions in the US inventory		
<b>JTS 023</b>	<b>Targeting Assessment</b>	1.0
<i>Terminal Learning Objectives:</i>		
Understand the concept and scope of Targeting Assessment and identify its purpose in the Joint Targeting Cycle		
<i>Enabling Learning Objectives:</i>		
Discuss Targeting Assessment and its purpose in the JTC		
Understand the assessment forums used within Combatant Commands		
Define Combat Assessment and identify the four elements		
Identify the staff elements responsible for each element of Combat Assessment		

Define the three types of Battle Damage Assessments

Describe Battle Damage Assessment phased reports

**JTS 303**

**BDA Reporting**

1.0

*Terminal Learning Objectives:*

Accurately report BDA for each BDA phase in order to assist commanders as they assess campaign objective achievement

*Enabling Learning Objectives:*

Accurately articulate physical damage in terms of desired effects

Correctly describe the effect of damage on target functional capabilities

Effectively assess the impact of individual target damage on overall target system functionality

Craft BDA summary which relates damage effects to achievements of commander's objectives

**JTS 304**

**Buildings**

1.0

*Terminal Learning Objectives:*

Describe damage assessment criteria for buildings, focusing on the relationship between physical and functional damage

*Enabling Learning Objectives:*

Define building types and associated codes

Describe how building exteriors provide indicators of the construction techniques and materials used

Describe two forms of structural load

Describe weaponeering techniques that will alter the load carrying capacity of a building

Conduct basic assessment of building damage

**JTS 305**

**Hardened Structures**

1.0

*Terminal Learning Objectives:*

Summarize the fundamental process of assessing battle damage of hardened structures

*Enabling Learning Objectives:*

Define a hardened structure

Identify the three basic types of hardened structures and describe the construction techniques and material used

Define the following terms and explain their use in assessing hardened structure battle damage: perforate, penetrate, medium of interest, breach, spalling and venting

Identify the agencies / commands that support hardened facility targeting and describe their support products

Identify the intelligence sources that support hardened structure BDA and give examples of each battle damage indicators supported by each source

Identify the physical, functional and target system damage assessments for hardened structures and summarize their limitations

Perform initial, supplemental and target system analysis, munitions effectiveness assessment and make re-attack recommendations on selected strike missions

**JTS 306          Electric Power (PWR)**

1.0

*Terminal Learning Objectives:*

Summarize the fundamental process of assessing battle damage of electric power systems

*Enabling Learning Objectives:*

Describe the three functions of EP systems

Describe the three basic types of EP plants

Identify the five critical elements of an EP system

State the repair / reconstruction times for each critical element

Identify the intelligence sources that support EP BDA and give examples of battle damage indicators supported by each source

Identify the physical, functional and target system assessments for each EP systems and summarize their limitations

**JTS 307          Command, Control, Communications, Computers, Intelligence (C4I)**

1.0

*Terminal Learning Objectives:*

Summarize the fundamentals of battle damage assessment of telecommunications systems

*Enabling Learning Objectives:*

Understand the basics of contemporary telecommunication systems

Identify potential critical elements of telecommunications systems

Identify existing intelligence sources that enable BDA of telecommunications

Identify existing physical, change and functional damage assessments for telecommunications systems

**JTS 308          Petroleum, Oil, and Lubricants (POL)**

1.0

*Terminal Learning Objectives:*

Understand how to properly assess battle damage to POL systems

*Enabling Learning Objectives:*

Understand the basic design and function of POL systems

Describe key characteristics of POL systems to include critical elements and repair/recuperation times

Identify the damage criteria used to make physical and functional damage assessments

Outline intelligence sources that support BDA for POL and give examples of battle damage indicators

Apply the BDA methodology to conduct Phase 1, 2, and 3 BDA on POL systems

**JTS 309**            **Lines of Communications (LOC)**

1.0

*Terminal Learning Objectives:*

Summarize the fundamental process of assessing battle damage of the four major LOC components (highways, airlift, railways, and inland waterways)

*Enabling Learning Objectives:*

State the two basic bridge functions

Identify the four critical elements of a bridge

State the repair / reconstruction times for each critical element of bridges

Identify the physical, functional and target system damage assessments for bridges and summarize their limitations

Name the two target elements of a paved transportation system

Identify the critical elements of a paved transportation system

State the repair / reconstruction times for each critical elements of a paved transportation system

Identify the physical, functional and target system damage assessments for paved transportation systems and summarize their limitations

Identify the five critical elements of a railway system

State the repair / reconstruction times for the critical elements of a railway system

Identify the physical, functional and target system damage assessments for a railway system and summarize their limitations

Perform initial, supplemental and target system BDA analysis, munitions effectiveness assessment and make re-attack recommendation on selected strike missions

**JTS 310**            **Ground Forces and Facilities (GFF)**

1.0

*Terminal Learning Objectives:*

Understand how to assess conventional ground force order of battle and associated equipment losses in order to determine combat effectiveness

*Enabling Learning Objectives:*

Describe the process for identifying a ground order of battle and identifying significant targets for engagement

Identify the weaponing considerations used when targeting ground force personnel

Identify the intelligence sources and indicators that support BDA for personnel and equipment

Identify physical and functional damage assessment criteria and associated considerations for personnel and equipment

**JTS 311      Air Defense Forces/Air Forces and Airfields (ADF/AFA)**

1.0

*Terminal Learning Objectives:*

Summarize the fundamental process of assessing battle damage of an Integrated Air Defense System (IADS)

*Enabling Learning Objectives:*

Understand the concept of an integrated air defense system (IADS)

Understand the different types of IADS, their functions, and the operational responsibility of each function

Identify elements that support each IADS function

Identify targets sets that apply to IADS

Understand the basic physical and functional damage considerations associated with IADS related target sets

**JTS 312      Naval Forces and Ports (NFP)**

1.0

*Terminal Learning Objectives:*

Summarize the fundamental process of assessing battle damage of ships

*Enabling Learning Objectives:*

Identify the two classes used to characterize shipping targets and summarize their attributes

Identify the targeting vulnerabilities of each class

Identify the damage criteria and the damage mechanisms used to achieve the desired damage effects

Identify the intelligence sources that support ship BDA and give examples of battle damage indicators supported by each source

Identify physical, functional and target system assessments for ships and summarize their limitations

Describe the target system analysis needed to support individual ship BDA

## Chapter 4

### Practical Exercises

<b>Exercise ID</b>	<b>Exercise Name</b>	<b>Duration</b>
<b>PE 1</b>	<b>Buildings</b>	<b>1.0</b>

*Objective:*

Conduct battle damage assessment on a building and produce a phase one, two, and three report

Provide a phase one and two BDA Task Assessment

Provide intelligence input to Munitions Effectiveness Assessment and Re-attack Recommendation

<b>PE 2</b>	<b>Hardened Targets</b>	<b>1.0</b>
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*Objective:*

Conduct battle damage assessment on a bunker and produce a phase one, two, and three report

Provide a phase one and two BDA Task Assessment

Provide intelligence input to Munitions Effectiveness Assessment and Re-attack Recommendation

<b>PE 3A</b>	<b>PWR</b>	<b>1.0</b>
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*Objective:*

Conduct battle damage assessment on a transformer and produce a phase one, two, and three report

Provide a phase one and two BDA Task Assessment

Provide intelligence input to Munitions Effectiveness Assessment and Re-attack Recommendation

<b>PE 3B</b>	<b>POL</b>	<b>1.0</b>
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*Objective:*

Conduct battle damage assessment on a distillation tower and POL storage tanks and produce a phase one, two, and three report

Provide a phase one and two BDA Task Assessment

Provide intelligence input to Munitions Effectiveness Assessment and Re-attack Recommendation

<b>PE 4</b>	<b>LOC</b>	<b>1.0</b>
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*Objective:*

Conduct battle damage assessment on a bridge and produce a phase one, two, and three report

Provide a phase one and two BDA Task Assessment

Provide intelligence input to Munitions Effectiveness Assessment and Re-attack Recommendation



## **Chapter 6**

### **Course References**

CJCSM 3162.01, Joint Methodology for Battle Damage Assessment Methodology (UNCLASS)

DI-2820-2-03, Battle Damage Assessment (BDA) Handbook (S//REL TO USA, AUS, CAN, GBR//MR)

DI-2800-2-YR, Critical Elements of Selected Generic Installations (Critical Elements Handbook) (S//REL TO USA, AUS, CAN AND GBR//MR)

JP 3-60, Joint Targeting (UNCLASS)