STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

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School of Security and Global Studies
Emergency and Disaster Management Program
HLSS 231
History of Explosive Ordnance Disposal (EOD)
3 Credit Hours
8-Weeks
Prerequisite(s): None

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Instructor Information

Instructor: Via Opening Announcement
Email: Please use the Messages section of the course
Phone:
Fax
Office Hours:

Course Description (Catalog)

HLSS 231 History of EOD (3 hours)

This course is a dynamic and information packed introduction to the history of incendiaries and explosives. Included is a short study of the origins of modern-day Bomb Disposal and Explosive Ordnance Disposal (EOD) Teams and their evolving techniques. The course examines areas and ideas from the ancient mystique of "Greek Fire" and the inventions of gunpowder and high explosives, up to modern-day nuclear reactions and weapons of mass destruction. The course provides an in-depth understanding and appreciation of the history and background of the science and mechanics applied to explosive technologies, and provides for a better understanding of those who work to render safe unexploded hazards.

Course Scope

As a General Studies course and the introductory course for an Associates degree program in EOD, this course offers a dynamic and information packed introduction to the fascinating history of incendiaries and explosives. Included is a short study of the origins of modern-day Bomb Disposal and Explosive Ordnance Disposal (EOD) Teams and their evolving techniques. We examine areas and ideas from the ancient mystique of "Greek Fire" and the inventions of gunpowder and high explosives, up to modern-day nuclear reactions and Weapons of Mass Destruction. The course provides an in-depth understanding, and appreciation, of the history and background of the science and mechanics applied to explosive technologies, and provides for a better understanding of the men and women who work to safe the unexploded hazards. Military and civilian EOD historical events are or equal concern.

Course Objectives

Course Objectives:

CO-1 Describe specific dates in relation to discovery, invention and use of various explosives.

CO-2 List important scientists and inventors who played essential roles in explosives development.

CO-3 Explain the cause and effect relationship of experimental tests with early explosives use and testing.

CO-4 Discuss the importance of explosives development for mining operations.

CO-5 Describe the importance of engineering principles and technology for the past 2 centuries

CO-6 Recount early military use of explosive and incendiary compounds.

CO-7 Explain the significance of World War II bomb disposal procedures.

CO-8 List the series of events leading up to the first successful nuclear tests.

CO-9 Discuss military bomb disposal's expansion into chemical, biological and nuclear ordnance.

CO-10 Recall the growth and diversity of both military and civilian EOD organizations.

CO-11 Recognize the sacrifices made by EOD personnel on a global scale.

CO-12 Underline the differences between organizational histories of EOD units from a civilian and military perspective to include international concerns.

CO-13 Examine the importance, and role of the Department of Homeland Security (DHS), Department of Transportation (DOT), Federal Emergency Management Agency (FEMA), and other State and Local organizations in relation to disaster responses involving hazardous explosives Weapons of Mass Destruction and other like materials.

Course Delivery Method

This course will offer the student a highly interactive virtual classroom. Each week's lesson will have a course announcement and assigned readings. Discussion group topics will be posted in the Forum section based on either course readings or learning objective topics. Lecture notes (Weekly Notes) are provided by the instructor in the Resources section of the SAKAI Learning Management System (LMS). The course

will provide the student with the necessary knowledge of the international system to better appreciate and comprehend world events and motivations of the numerous international actors.

Since the student is expected to fully participate in discussions and interact with the instructor and other students, reading assignments and assigned projects should be completed in a timely manner.

Course Materials

1. Kelly, J. *Gunpowder: Alchemy, Bombards & Pyrotechnics*. Basic Books, 2004.

2. Websites (URLs) provided in Weekly Lessons located in the Lessons Section.

Evaluation Procedures

Grades for this course will be based upon four grading instruments. Discussion questions for class participation/interaction are provided in the FORUM section of the LMS. The student – when directed by the instructor -- will respond to the posting of other students. The mid-term and final exams will be a composite of multiple choice questions, true false and possibly short essays.

The grade scale and due dates for each of the evaluation are provided below:

Grade Instruments:	Points	% of Final Grade
Discussion Group Topics	10 pts	10%
Homework Assignments	35 pts	35%
Essay Paper	100 pts	20%
Mid-Term Exam	100 pts	10%
Final Exam	100 pts	25%
	340 pts	100%

Grading Scale

Please see the Student Handbook (click here) to reference the University's grading scale

Course Online

8-Week	Topics	Course Objectives	Readings	Assignments

1	**Early Incendiaries and the Invention of Gunpowder**	Explain the history, use & composition of Greek Fire. Recognize the importance of incendiary compounds to early warfare. Recall the transition of importance from Greek Fire to Gunpowder. Discriminate between Greek, Chinese and Arabian records of use. List the various early uses of Gunpowder. Define Gunpowder's impact on early civilizations.	Kelly Page VII – Chapter 2 Lesson 1	Homework posted in the **Assignments** Section of the LMS First Forum Topic
2	**European influence over explosive's development; Roger Bacon and others**	Differentiate GP's transition period between China and Europe. Explain the contributions of 'alchemists'. Recognize Roger Bacon's efforts towards GP's development. Identify Bacon's famous treatise. Define necromancer, sorcerer, and alchemist as it pertained to the 13th century descriptions and reputations. List Bacon's many qualifications and titles. Record the period in which GP was 'incendiary of choice'. Recall Berthold	Kelly Chapters 3-7 Lesson 2	Homework posted in the **Assignments** Section of the LMS Second Forum Topic

		Schwarz's invention (Fact or Fiction)		
3	**Dynamite, French influence, mills and mining, and 19th century advancements**	Discuss the contributions as made by Alfred Nobel. (Google Search Challenge) Recognize the industrial impact brought on by dynamite's development. List the manufacturing advances in relation to ordnance development. Differentiate between military and industrial agendas in relation to explosive ordnance technology. Explain how the invention of the individual round of ammunition changed early conventional warfare. Describe the trial and error experimentation in regards to 19th century munitions. Differentiate the process of 'milling' vice the experimentation of explosives during mining operations. Explain the important role of safer nitroglycerin development. Define Charles Munroe's leadership with explosive techniques. Discuss the importance of the Du Pont family intervention Recall the various ordnance developments in and around the Civil War period.	Kelly Chapters8-11 Lesson 3	Homework posted in the **Assignments** Section of the LMS Third Forum Topic
4	**Developments World**	Discuss how industrialization	Lesson 4	Homework posted in

	War 1 **Mid-Term Exam**	and warfare heralded various explosive ordnance developments Recall the necessity of manufacturing in preparation for war Recognize the importance of Lyddite and TNT Describe the impact of 'shelling' on the European front List the major recommendations as made by the Royal Engineers Explain why German shells were consider superior Recognize the explosive storage mishaps occurring during this period Underline the effectiveness of ammunition advancements Differentiate between the accuracy and functioning of various ammunition types for land and sea warfare		the **Assignments** Section of the LMS Notes – Lesson 4 Exam: Access Open Book Mid-Term Exam in the Test/Quizzes section Fourth Forum Topic
5	**WW 2, development of military EOD forces**	Explain the political climate concerning 'adequate' EOD support during this period Discuss the bureaucracy involved when assigning various responsibilities List essential dates marking the establishment of an EOD structure Define the terms render safe and dispose Identify the liaisons established between scientists. technicians.	Week 5 Lesson	Homework posted in the **Assignments** Section of the LMS Fifth Forum Topic

		and military servicemen Recall the development of formalized training for bomb technicians Recognize the impact various engineering techniques offered Describe the different procedures of choice for handling sea munitions vice land munitions Underline the importance of British support in developing the 1st Bomb Disposal School in the United States		
6	**Cold War period up to Desert Storm onset**	Discuss the organizational changes in growth and structure Explain where NATO EOD forces focused their efforts during this period Describe how Korean and Viet Nam challenges EOD forces as compared to WW 2 Recognize how UDT forces evolved from EOD and SEABEE Diver	Week 6 Lesson	Homework posted in the **Assignments** Section of the LMS Sixth Forum Topic

	elements during the Viet Nam period		
	Define the standard 'rules-of-engagement' for cold-war EOD forces, also pay attention to the period of time surrounding the Unabomber investigation		
	List the mainstream terrorist incidents involving bombings of this period		
	Underline the premise for Joint and NATO collaboration of EOD forces		
	Differentiate between the US service branches of EOD and how they individually evolved within their organizations		
	Recall specific civilian		

		bombing incidents within the US during this period Recall specific civilian bombing incidents overseas during this period (IRA)		
7	**Brief history of WMDs**	Define WMD as it was perceived prior to 9/11 Identify various types of WMD's as they are referenced throughout history Discuss the seriousness of threat as perceived during the Cold War Era Explain why EOD forces lacked equipment and training to handle WMD threats during this period List historical events as occurred involving biological, chemical,	Week 7 Lesson	Homework posted in the **Assignments** Section of the LMS

		and nuclear events Recall when biological threats were deemed less 'viable' and why Recognize both the similarities and differences of civilian and military EOD forces when responding to WMD scale events during the past 40 years		
8	**Final Exam** **Essay Paper Due**			Exam: Access Final Term Exam

Polices

Please see the Student Handbook to reference all University policies. Quick links to frequently asked question about policies are listed below.

Drop/Withdrawal Policy
Plagiarism Policy
Extension Process and Policy

WRITING EXPECTATIONS

All written submissions should be submitted in a font and page set-up that is readable and neat. It is recommended that students try to adhere to a consistent format, which is described below.

- Typewritten in double-spaced format with a readable style and font and submitted inside the electronic classroom (unless classroom access is not possible and other arrangements have been approved by the professor).

- Arial 11 or 12-point font or Times New Roman styles.
- Page margins Top, Bottom, Left Side and Right Side = 1 inch, with reasonable accommodation being made for special situations and online submission variances.

- ***Smarthinking:*** Students have access to ten free hours of tutoring service per year through **Smarthinking**. Tutoring is available in the following subjects: math (basic math through advanced calculus), science (biology, chemistry, and physics), accounting, statistics, economics, Spanish, writing, grammar, and more. Additional information is located in the Online Library. From the Online Library home page, click on either the "Writing Center" or "Tutoring Center" and then click "Smarthinking." All login information is available.
- Online assistance is available at http://www.tutor.com/

CITATION AND REFERENCE STYLE

Assignments completed in a narrative essay or composition format must follow APA guidelines. This course will require students to use the citation and reference style established by the American Psychological Association (APA), in which case students should follow the guidelines set forth in *Publication Manual of the American Psychological Association* (6th ed.). (2001). Washington, D.C.: American Psychological Association.

LATE ASSIGNMENTS

Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. As adults, students, and working professionals I understand you must manage competing demands on your time. Should you need additional time to complete an assignment please contact me before the due date so we can discuss the situation and determine an acceptable resolution. Routine submission of late assignments is unacceptable and may result in points deducted from your final course grade.

DISABILITY ACCOMMODATIONS
This institution complies with the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and state and local requirements regarding students with disabilities. In compliance with federal and state regulations, reasonable accommodations are provided to qualified students with disabilities.

A request for accommodation is deemed reasonable if the request:

- is based on documented individual needs.
- does not compromise essential requirements of a course or program.
- does not impose an undue financial or administrative burden upon APUS.

A qualified student can, with or without reasonable accommodations, perform the essential functions of program or course requirements. The essential requirements of an academic course or program need not be modified to accommodate an individual with a disability.

Final responsibility for selection of the most appropriate accommodation rests with the University's Disability Support Services Committee and is determined on an individual case-by-case basis, based on the nature of the student's disability. Students are encouraged email **registrar@apus.edu** to discuss potential academic accommodations and begin the review process. It is the student's responsibility to:

- follow the accommodation procedure outlined in this section,
- identify the disability to the staff and/or faculty of the university,
- provide (and incur expense for) current appropriate documentation of disability and accommodation needed from a qualified medical or other licensed professional, and
- request specific accommodations or services.

NETIQUETTE

Online universities promote the advance of knowledge through positive and constructive debate--both inside and outside the classroom. Discussions on the Internet, however, can occasionally degenerate into needless insults and "flaming." Such activity and the loss of good manners are not acceptable in a university setting--basic academic rules of good behavior and proper "Netiquette" must persist. Remember that you are in a place for the fun and excitement of learning that does not include descent to personal attacks, or student attempts to stifle the discussion of others.

- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The Educator classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and--especially--satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add "emoticons" to help alert your readers: ;-), :), ☺

DISCLAIMER STATEMENT

Course content may vary from the outline to meet the needs of this particular group.

Online Library

The Online Library is available to enrolled students and faculty from inside the electronic campus. It provides access to subscription article databases, periodicals, books, video and more to support your research and studies. In addition, the Online Library provides access to special learning resources like tutoring services and Turnitin.com, which the University has contracted to boost your academic success.

- *Library Course Guides:* APUS librarians have created guides for each degree program and many courses. Each guide compiles the most relevant research tools (subscription article databases, journals and ebooks), as well as authoritative websites, multimedia and more. Explore the guides at http://apus.campusguides.com/ .
- *Ask a Librarian:* librarians are on duty approximately 18 hours per day, 365 days per year. At http://apus.libanswers.com/, you can search for answers to library questions, or use the "Ask" button to submit a question of your own.
- *Electronic Books and Journals:* You can use the online library to access over 150,000 ebooks and 40,000 journals, which are licensed for use by APUS students and faculty only. Visit the *Licensed Library Databases* guide to explore search options.
- *Research and Writing Help*: librarians have created tutorials for college-level research and writing. Click here to explore them all.
- *Online Tutoring*: AMU and APU students are eligible for up to 10 free hours of online tutoring provided by APUS. Some military students are eligible for additional hours through their Armed Forces education offices. For more information, visit http://apus.campusguides.com/tutor.
- *Interlibrary Loan and other services:* when you need a book or article not held in the APUS Online Library, you may request it via interlibrary loan (ILL). Read more about ILL and other library services.

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Turnitin.com

Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. Typically the course professor will establish a Turnitin.com access code for his/her classes. If the code has not been established, those who wish to use Turnitin.com may ask their professor to establish the code. Click here for more information about Turnitin.

Note: Turnitin is not an automatic feature for the final written assignment

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Selected Bibliography

Look in your Weekly Notes Folder in the Course Materials section for additional sources.