

## **Performance Based Statement of Work**

### **Course Delivery of OA3102 Statistics, One Section**

#### **Department of Operations Research Naval Postgraduate School**

##### **1.0 Background/Introduction:**

The military uses operations research (OR) at the strategic, operational, and tactical levels. OR improves decision making and facilitates insights into the phenomena of combat. OR applications cover the gamut of military activities, including national policy analysis, resource allocation, force composition and modernization, logistics, human resources (recruiting, retention, promotion, training, and personnel assignment), battle planning, flight operations scheduling, intelligence, command and control, weapon selection (weapon system effectiveness, cost, compatibility, and operability), engagement tactics (fire control, maneuver, target selection, and battle damage assessment), maintenance and replenishment, and search and rescue.

Statistics is a critical element in the support of the armed forces, as it provides the fundamental data to manage personnel, weapons systems, and repair parts. Personnel management requires statistics to predict need and the manning levels of naval ships and infantry divisions. Weapons systems have to undergo a series of tests and evaluation prior to acquisition to establish cost estimates, quality assurance, and functional metrics of minimum standards. All repair parts support are purchased and stored in various levels of stock points around the globe. To manage these areas, the Department of Defense (DoD) relies on statistics and statisticians to compile and analyze data. By exploiting math models with inputs from these statistical compilations, DoD ensures that managing personnel, weapons systems, and repair parts is accomplished in the most efficient and cost-effective manner.

OA3102 is designed to cover statistical concepts and methods frequently used in the various areas of personnel, weapons systems, and repair parts management. OA3102 requires OA3101 (Probability I) as a foundation. This course begins where OA3101 leaves off, with coverage of joint distributions and conditional distributions (both discrete and continuous), an introduction to Multinomial and Bivariate Normal distributions, and properties of linear functions of random variables, including the Central Limit Theorem. The statistics portion of OA3102 concerns the foundations of mathematical and practical statistics. It begins with point estimators, both Maximum Likelihood and Method of Moments, and their properties and sampling distributions. Statistics continues with inference: interval estimation and hypothesis testing based on the one- and two- sample settings for large and small samples.

The course consists of four 1-hour lectures and one 2-hour lab period per section, per week. The lab period includes problem-solving sessions and computer lab sessions using the “R” language, and illustrating and putting into practice military applications of course concepts. The labs reinforce students’ knowledge of Probability and “R” programming language skills introduced in OA3101. Topics shall be presented using military examples.

The contractor shall use the latest (7th) edition of the textbook, “Mathematical Statistics with Applications,” by Wackerly, Mendenhall, and Sheaffer, published by Brooks/Cole CENGAGE Learning. The contractor will be required to purchase their own copy of the textbook.

## **2.0 Scope:**

The OR Department at the Naval Postgraduate School (NPS) has a requirement for contractual services from an experienced contractor to teach one section of OA3102 Statistics in the Summer Quarter of Academic Year 2016. The contractor will receive Government-furnished course materials that he/she shall tailor or update, as needed, to facilitate a learning environment to establish student understanding of the course.

## **3.0 Tasks:**

The contractor shall perform the following tasks:

- 3.1** The contractor shall update the course syllabus, which will be provided by the OR Department, in a manner that clearly articulates the course learning objectives, the enabling objectives, homework problems, and the grading criteria. The updated syllabus must be reviewed and approved by the Department Technical Point of Contact (TPOC) one working day prior to the start of class.
- 3.2** The contractor shall review and tailor/update all course lecture materials, which will be provided by the Department TPOC, to meet the needs of the specific class.
- 3.3** The contractor shall monitor student progress weekly by evaluating students via a series of quizzes, labs, and/or exams. A final, comprehensive examination will also be issued to the students during final exam week. Exams, labs, and quizzes will be created at the discretion of the contractor, but will be approved one week in advance of the activity by the TPOC.
- 3.4** The contractor shall maintain a course site on Sakai and shall upload and store all relevant course materials on that site for student access. The Sakai course site must be reviewed and approved by the Department TPOC one working day prior to the start of class. The contractor must provide the TPOC a complete set of homework assignments with solutions.
- 3.5** The contractor will lecture for four hours per week, at a time and place assigned by the NPS Scheduler.
- 3.6** Weekly labs. The contractor shall conduct one 2-hour lab session, at a time and place assigned by the NPS Scheduler. Topics covered will include those provided in the syllabus that
  - (a)** introduce students to the R programming environment;
  - (b)** demonstrate statistical and data analytic concepts presented in the lectures; and
  - (c)** require the students to apply the statistical methods to conduct data analyses.

To the greatest extent possible, these labs will be motivated by actual military examples and data.
- 3.7** The contractor shall maintain office hours for a minimum of two hours per week for student-instructor interaction outside of the classroom.
- 3.8** The contractor shall provide student grade recommendations to the Department TPOC by 28 September 2016.

#### 4.0 Deliverables:

The contractor shall be responsible for preparing deliverables in support of the tasks identified in this PWS.

- 4.1 Finalized syllabus
- 4.2 Sakai site with all current (including any revised versions) course materials
- 4.3 Delivery of course lectures and labs
- 4.4 Submission of final grades

#### Performance Measurement - Quality Assurance Plan

Task	Deliverable that will be inspected	Acceptable Quality Level (AQL)	Method	Frequency
3.1	Syllabus	Contains appropriate learning and enabling objectives. Must include weekly learning topics, homework assignments, and grading criteria.	Visual Inspection	TPOC inspection one working day prior to beginning of the course
3.2, 3.4	Sakai site with all course materials including homework, quizzes, and labs	Contains appropriate PowerPoint presentations to conduct class. Homework solutions must be 99% accurate.	Visual Inspection	TPOC inspection one working day prior to beginning of the course and weekly after the beginning of the course
3.3	Exam Results	The contractor will report any student who has not successfully passed an exam or project to the Academic Associate or the Program Officer.	Verbal Inspection	As necessary
3.5- 3.6	Lectures and Labs	Are delivered in an academic and professional manner with a clear command of the material.	Visual Inspection; Assess Student Opinion Form (SOF)	TPOC random observations of class
3.7	Office Hours	Maintain a two-hour block of office hour time each week.	Visual Inspection	TPCO random observations
3.8	Final Grades	The contractor will provide the final grades to the TPOC by 28 September 2016.	Visual Inspection	End of course

If performance falls below the AQL defined above, the Contracting Officer's Representative (COR) shall document the instance(s), coordinate with the Contracting Officer and advise the Contractor. The Contractor will be requested to review the documentation and provide a written response on how performance will be corrected in the future. Re-performance of any work for failure to perform in accordance with the specified

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AQL or task requirement shall be completed at the Contractor's own expense and at no additional cost to the Government.

### **5.0 Minimum Technical Requirements:**

- Must have a Ph.D. in Probability and Statistics, Mathematics, or Operations Research.
- Must have five years of experience teaching Probability and Statistics at the undergraduate or graduate degree level.
- Must have a minimum of two years of experience in using the R statistical programming environment.
- Must have hands-on experience in developing statistical analysis techniques, which is demonstrated by their publication in a research-sponsored or academically sanctioned technical report, or in a refereed journal of Probability and Statistics, Operations Research, or Management Science.

### **6.0 Period of Performance:**

Date of award through 28 September 2016; Estimated for prep and processing of final deliverables for the course delivered in the Summer Quarter/Academic Year 2016.

### **7.0 Place of Performance:**

Naval Postgraduate School, Glasgow Hall.

### **8.0 Government Furnished Property:**

The contractor will be given an office in which to work and maintain office hours. The office will contain an appropriate computer, telephone, internet access, desks, chairs, and bookshelves to support teaching.

### **9.0 Work Week and Hours of Operation:**

The Contractor shall provide services during normal working hours excluding federal holidays. Normal working hours are 0730-1630, Monday through Friday, unless requirements dictate otherwise. Exceptions can be permitted by the COR upon request and at the COR's discretion.

Following is a list of holidays observed by the Government.

<u>Name of Holiday</u>	<u>Time of Observance</u>
New Year's Day	1 January
Martin Luther King Jr. Day	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veteran's Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

If any of the above holidays occur on a Saturday or a Sunday, then such holiday shall be observed by the Contractor in accordance with the practice as observed by the assigned Government employees at the using activity

**10.0 Travel:**

Travel is not required. Travel will be in accordance with the Joint Travel Regulations (JTR) and will be reimbursed by the government on an as-incurred basis.

Associated Task	From/To Travel Location	Duration of Trip	How Many Travelers

**11.0 Security Requirements:**

Unclassified; U.S. citizenship required.

Contractor Key Personnel must be U.S. Citizens.

Contractors performing on this contract are required to familiarize themselves with, and participate in, the Naval Postgraduate School’s OPSEC program. Must be familiar with and comply with NAVPGSCOLINST 3432.1B, the NPS Critical Information List, DoDI 5205.2E and their applicable references. The contractor will be required to complete OPSEC and counter-intelligence training within 30 days of beginning the work, or provide proof of OPSEC and counterintelligence training completed within the previous 12 months. The contractor may not publicly release any information about developmental work or curriculum at NPS without prior written approval from the Preliminary Investigator (PI).

**12.0 Transition Activities:**

It is essential to the Government that services required under this PWS are performed without interruption. At the conclusion of any performance period, including option periods or extensions, the services provided under this PWS may be awarded to another contractor. The contractor in place shall be required to assist in the transition activities.

**13.0 Privacy Act Statement:**

“Pursuant to Title 5 United States Code 552a(m)(1), the contractor and all employees of the contractor working under this contract are required to comply with the requirements of 5 U.S.C. 552a (“The Privacy Act of 1974”).”

**14.0 Identification of Contractor Employees:**

In accordance with DFAR 211.106, there shall be a clear distinction between Government employees and service contractor employees. Service contractor employees shall identify themselves as contractor personnel by introducing themselves or being introduced as contractor personnel. Contractor personnel will be required to obtain and wear badges or other visible identification for meetings with Government personnel to provide a clear distinction between service contractor employees and Government personnel. In addition, contractor personnel shall appropriately identify themselves as contractor employees in telephone conversations and in formal and informal written correspondence. They must also ensure that all documents or reports produced by contractors are suitably marked as contractor products or that contractor participation is appropriately disclosed.

## **15.0 Non-Personal Services Statement:**

Contractor employees performing services under this order will be controlled, directed, and supervised at all times by management personnel of the contractor. Contractor management will insure that employees properly comply with the performance work standards outlined in the SOW. Contractor employees will perform their duties independent of, and without the supervision of, any Government official or other Defense Contractor. The tasks, duties, and responsibilities set forth in the task order may not be interpreted or implemented in any manner that results in any contractor employee creating or modifying Federal policy, obligating the appropriated funds of the United States Government, overseeing the work of Federal employees, or otherwise violating the prohibitions set forth in Parts 7.5 and 37.1 of the Federal Acquisition Regulation (FAR). The Government will control access to the facility and will perform the inspection and acceptance of the completed work.

## **16.0 NAVSUP 5252.204-9400 Contractor Unclassified Access to Federally Controlled Facilities, Sensitive Information, Information Technology (IT) Systems or Protected Health Information (July 2013)**

Homeland Security Presidential Directive (HSPD)-12, requires government agencies to develop and implement Federal security standards for Federal employees and contractors. The Deputy Secretary of Defense Directive-Type Memorandum (DTM) 08-006 – “DoD Implementation of Homeland Security Presidential Directive – 12 (HSPD-12)” dated November 26, 2008 (or its subsequent DoD instruction) directs implementation of HSPD-12. This clause is in accordance with HSPD-12 and its implementing directives.

### **APPLICABILITY**

This clause applies to contractor employees requiring physical access to any area of a federally controlled base, facility or activity and/or requiring access to a DoN or DoD computer/network/system to perform certain unclassified sensitive duties. This clause also applies to contractor employees who access Privacy Act and Protected Health Information, provide support associated with fiduciary duties, or perform duties that have been identified by DON as National Security Position, as advised by the command security manager. It is the responsibility of the responsible security officer of the command/facility where the work is performed to ensure compliance.

Each contractor employee providing services at a Navy Command under this contract is required to obtain a Department of Defense Common Access Card (DoD CAC). Additionally, depending on the level of computer/network access, the contract employee will require a successful investigation as detailed below.

### **ACCESS TO FEDERAL FACILITIES**

Per HSPD-12 and implementing guidance, all contractor employees working at a federally controlled base, facility or activity under this clause will require a DoD CAC. When access to a base, facility or activity is required contractor employees shall in-process with the Navy Command’s Security Manager upon arrival to the Navy Command and shall out-process prior to their departure at the completion of the individual’s performance under the contract.

### **ACCESS TO DOD IT SYSTEMS**

In accordance with SECNAV M-5510.30, contractor employees who require access to DoN or DoD networks are categorized as IT-I, IT-II, or IT-III. The IT-II level, defined in detail in SECNAV M-5510.30, includes positions which require access to information protected under the Privacy Act, to include

Protected Health Information (PHI). All contractor employees under this contract who require access to Privacy Act protected information are therefore categorized no lower than IT-II. IT Levels are determined by the requiring activity's Command Information Assurance Manager. Contractor employees requiring privileged or IT-I level access, (when specified by the terms of the contract) require a Single Scope Background Investigation (SSBI) which is a higher level investigation than the National Agency Check with Law and Credit (NACLC) described below. Due to the privileged system access, a SSBI suitable for High Risk public trusts positions is required. Individuals who have access to system control, monitoring, or administration functions (e.g. system administrator, database administrator) require training and certification to Information Assurance Technical Level 1, and must be trained and certified on the Operating System or Computing Environment they are required to maintain.

Access to sensitive IT systems is contingent upon a favorably adjudicated background investigation. When access to IT systems is required for performance of the contractor employee's duties, such employees shall in-process with the Navy Command's Security Manager and Information Assurance Manager upon arrival to the Navy command and shall out-process prior to their departure at the completion of the individual's performance under the contract. Completion and approval of a System Authorization Access Request Navy (SAAR-N) form is required for all individuals accessing Navy Information Technology resources. The decision to authorize access to a government IT system/network is inherently governmental. The contractor supervisor is not authorized to sign the SAAR-N; therefore, the government employee with knowledge of the system/network access required or the COR shall sign the SAAR-N as the "supervisor".

The SAAR-N shall be forwarded to the Navy Command's Security Manager at least 30 days prior to the individual's start date. Failure to provide the required documentation at least 30 days prior to the individual's start date may result in delaying the individual's start date.

When required to maintain access to required IT systems or networks, the contractor shall ensure that all employees requiring access complete annual Information Assurance (IA) training, and maintain a current requisite background investigation. The Contractor's Security Representative shall contact the Command Security Manager for guidance when reinvestigations are required.

### **INTERIM ACCESS**

The Navy Command's Security Manager may authorize issuance of a DoD CAC and interim access to a DoN or DoD unclassified computer/network upon a favorable review of the investigative questionnaire and advance favorable fingerprint results. When the results of the investigation are received and a favorable determination is not made, the contractor employee working on the contract under interim access will be denied access to the computer network and this denial will not relieve the contractor of his/her responsibility to perform.

### **DENIAL OR TERMINATION OF ACCESS**

The potential consequences of any requirement under this clause including denial or termination of physical or system access in no way relieves the contractor from the requirement to execute performance under the contract within the timeframes specified in the contract. Contractors shall plan ahead in processing their employees and subcontractor employees. The contractor shall insert this clause in all subcontracts when the subcontractor is permitted to have unclassified access to a federally controlled facility, federally-controlled information system/network and/or to government information, meaning information not authorized for public release.

### **CONTRACTOR'S SECURITY REPRESENTATIVE**

The contractor shall designate an employee to serve as the Contractor's Security Representative. Within three work days after contract award, the contractor shall provide to the requiring activity's Security Manager and the Contracting Officer, in writing, the name, title, address and phone number for the Contractor's Security Representative. The Contractor's Security Representative shall be the primary point of contact on any security matter. The Contractor's Security Representative shall not be replaced or removed without prior notice to the Contracting Officer and Command Security Manager.

### **BACKGROUND INVESTIGATION REQUIREMENTS AND SECURITY APPROVAL PROCESS FOR CONTRACTORS ASSIGNED TO NATIONAL SECURITY POSITIONS OR PERFORMING SENSITIVE DUTIES**

Navy security policy requires that all positions be given a sensitivity value based on level of risk factors to ensure appropriate protective measures are applied. Navy recognizes contractor employees under this contract as Non-Critical Sensitive [ADP/IT-II] when the contract scope of work require physical access to a federally controlled base, facility or activity and/or requiring access to a DoD computer/network, to perform unclassified sensitive duties. This designation is also applied to contractor employees who access Privacy Act and Protected Health Information (PHI), provide support associated with fiduciary duties, or perform duties that have been identified by DON as National Security Positions. At a minimum, each contractor employee must be a US citizen and have a favorably completed NACLIC to obtain a favorable determination for assignment to a non-critical sensitive or IT-II position. The NACLIC consists of a standard NAC and a FBI fingerprint check plus law enforcement checks and credit check. Each contractor employee filling a non-critical sensitive or IT-II position is required to complete:

- SF-86 Questionnaire for National Security Positions (or equivalent OPM investigative product)
- Two FD-258 Applicant Fingerprint Cards (or an electronic fingerprint submission)
- Original Signed Release Statements

Failure to provide the required documentation at least 30 days prior to the individual's start date shall result in delaying the individual's start date. Background investigations shall be reinitiated as required to ensure investigations remain current (not older than 10 years) throughout the contract performance period. The Contractor's Security Representative shall contact the Command Security Manager for guidance when reinvestigations are required.

Regardless of their duties or IT access requirements ALL contractor employees shall in-process with the Navy Command's Security Manager upon arrival to the Navy command and shall outprocess prior to their departure at the completion of the individual's performance under the contract. Employees requiring IT access shall also check-in and check-out with the Navy Command's Information Assurance Manager. Completion and approval of a System Authorization Access Request Navy (SAAR-N) form is required for all individuals accessing Navy Information Technology resources. The SAAR-N shall be forwarded to the Navy Command's Security Manager at least 30 days prior to the individual's start date. Failure to provide the required documentation at least 30 days prior to the individual's start date shall result in delaying the individual's start date.

The contractor shall ensure that each contract employee requiring access to IT systems or networks complete annual Information Assurance (IA) training, and maintain a current requisite background investigation. Contractor employees shall accurately complete the required investigative forms prior to submission to the Navy Command Security Manager. The Navy Command's Security Manager will review the submitted documentation for completeness prior to submitting it to the Office of Personnel

Management (OPM). Suitability/security issues identified by the Navy may render the contractor employee ineligible for the assignment. An unfavorable determination made by the Navy is final (subject to SF-86 appeal procedures) and such a determination does not relieve the contractor from meeting any contractual obligation under the contract. The Navy Command's Security Manager will forward the required forms to OPM for processing. Once the investigation is complete, the results will be forwarded by OPM to the DON Central Adjudication Facility (CAF) for a determination.

If the contractor employee already possesses a current favorably adjudicated investigation, the contractor shall submit a Visit Authorization Request (VAR) via the Joint Personnel Adjudication System (JPAS) or a hard copy VAR directly from the contractor's Security Representative. Although the contractor will take JPAS "Owning" role over the contractor employee, the Navy Command will take JPAS "Servicing" role over the contractor employee during the hiring process and for the duration of assignment under that contract. The contractor shall include the IT Position Category per SECNAV M-5510.30 for each employee designated on a VAR. The VAR requires annual renewal for the duration of the employee's performance under the contract.

### **BACKGROUND INVESTIGATION REQUIREMENTS AND SECURITY APPROVAL PROCESS FOR CONTRACTORS ASSIGNED TO OR PERFORMING NONSENSITIVE DUTIES**

Contractor employee whose work is unclassified and non-sensitive (e.g., performing certain duties such as lawn maintenance, vendor services, etc.) and who require physical access to publicly accessible areas to perform those duties shall meet the following minimum requirements:

- Must be either a US citizen or a US permanent resident with a minimum of 3 years legal residency in the United States (as required by The Deputy Secretary of Defense DTM 08- 006 or its subsequent DoD instruction) and
- Must have a favorably completed National Agency Check with Written Inquiries (NACI) including a FBI fingerprint check prior to installation access.

To be considered for a favorable trustworthiness determination, the Contractor's Security Representative must submit for all employees each of the following:

- SF-85 Questionnaire for Non-Sensitive Positions
- Two FD-258 Applicant Fingerprint Cards (or an electronic fingerprint submission)
- Original Signed Release Statements

The contractor shall ensure each individual employee has a current favorably completed National Agency Check with Written Inquiries (NACI) or ensure successful FBI fingerprint results have been gained and investigation has been processed with OPM.

Failure to provide the required documentation at least 30 days prior to the individual's start date may result in delaying the individual's start date. In order to maintain access to required systems, the contractor shall ensure completion of annual Information Assurance (IA) training, monitor expiration of requisite background investigations, and initiate reinvestigations as required.

\* Consult with your Command Security Manager and Information Assurance Manager for local policy when IT-III (non-sensitive) access is required for non-US citizens outside the United States.