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## HUMAN SYSTEMS INTEGRATION COURSEWORK

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- *Human Factors Engineering*
- *Research Methods*
- *Applied Probability and Statistics*
- *Advanced Data Analysis*
- *Individual Human Performance*
- *Systems Engineering*
- *Systems Acquisition*
- *Anthropometry and Biomechanics*
- *Training Systems*
- *Team Performance*
- *Human Resource Management*
- *Manpower Modeling*
- *Organizational Behavior*
- *Personnel Management*
- *Test and Evaluation*
- *Managing Planned Change in  
Complex Organizations*



NAVAL  
POSTGRADUATE  
SCHOOL



The Naval Postgraduate School is located in picturesque Monterey, California.

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**FOR MORE INFORMATION  
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## *HUMAN SYSTEMS INTEGRATION*

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*THE NATION'S PREMIER  
MASTER OF SCIENCE IN HSI*



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**NAVAL POSTGRADUATE  
SCHOOL  
MONTEREY, CALIFORNIA**

**Human Systems Integration (HSI)** acknowledges that the human is a critical component in any complex system. It is an interdisciplinary approach that makes explicit the underlying tradeoffs across the HSI domains, facilitating optimization of total system performance.

### **HSI Program Mission**

The HSI program at NPS provides graduate education and training to military and civilian personnel giving them the knowledge, skills, and abilities needed to be effective leaders in the assessment, design, testing, and management of the total system throughout the acquisition life cycle.



### **Facilities**

The Human Systems Integration Laboratory (HSIL) allows for on-site and field research, testing, and laboratory demonstrations of HSI principles. A newly established portion of the HSIL, the Applied Warfighter Ergonomics (AWE) Center, includes a usability laboratory, with behavioral recording, head and eye tracking, and gaze analysis capabilities. Gait, postural sway, anthropometric and biomechanical measurement capabilities are also available for use by researchers and students.



## **HSI Domains**

### **Human Factors Engineering**

Optimize human-machine performance through effective system design.

### **Human Survivability**

System design features and personal protective equipment that enhance force protection and decrease fratricide.

### **Health Hazards**

Identify and mitigate operating characteristics and systems design features that decrease worker performance and create significant health risks.

### **System Safety**

Effective operation and maintenance of a system without harm to the system or personnel.

### **Habitability**

The qualities of the physical living environment and support services that lead to mission effectiveness.

### **Manpower**

The number and composition of people who operate, maintain, support, and provide training for the system.

### **Personnel**

Selection of individuals with appropriate knowledge, skills, and abilities required to perform as operators, maintainers, or support personnel.

### **Training**

Instruction, education, and training required to provide personnel with the knowledge, skills and abilities required to operate and maintain systems.

### **Faculty**

HSI faculty are widely published and actively engaged in teaching and research. Faculty span the disciplines of Human Factors, Operations Research, Systems Engineering, Computer Science, Manpower, Personnel, Training, and Business Management.



### **Academics**

Students attend two years (eight quarters) of graduate level coursework. Graduates are awarded a Master of Science (M.S.) degree in Human Systems Integration.

### **Certification**

NPS HSI students receive certifications from the Defense Acquisition University (DAU) in Acquisition (ACQ 101 & 201), Program Management (PMT 250), and Test and Evaluation (TST 301 & 302).

### **Recent Examples of Applied Research in HSI at NPS**

- Future combat systems with technologies and weapons systems for command and control.
- Testing, and operation of unmanned vehicles.
- Effects of sustained and continuous operations on military performance.
- Reduced and optimal manning strategies for the Littoral Combat Ship.
- The effects of motion on human performance and system effectiveness.

