

# Highway Engineering Exchange Program Educator and Student Participation (ESP) Manual

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**TABLE OF CONTENTS**

**SECTION 1. Introduction .....3**

**SECTION 2. Annual Student Competition.....3**

2.1. National (Areas 1-4) Competition ..... 3

2.1.1. Guidelines: ..... 3

2.1.2. Awards: ..... 4

2.1.3. Summary of Abstract Submittal Roles and Responsibilities: ..... 4

2.1.3.1. International HEEP President, Vice President and Secretary..... 4

2.1.3.2. Educator Coordinators ..... 4

2.1.3.3. Student Participants..... 4

2.1.3.4. ESP Coordinator ..... 5

2.2. Area 5 Competition ..... 5

2.2.1. Guidelines: ..... 5

2.2.2. Awards: ..... 6

2.2.3. Summary of Area 5 Roles and Responsibilities: ..... 6

2.2.3.1. Student Presenters..... 6

2.2.3.2. Educator Coordinator..... 7

2.2.3.3. Area Meeting Host ..... 7

2.2.3.4. Area Director ..... 7

2.2.3.5. ESP Coordinator ..... 8

2.2.3.6. International HEEP President ..... 8

2.2.3.7. Area Judging Panel ..... 8

2.3. Final Round - International Highway Engineering Exchange Program (IHEEP) Conference  
Composition ..... 8

2.3.1. Guidelines ..... 8

2.3.2. Awards: ..... 9

2.3.3. Summary of IHEEP Conference Roles and Responsibilities ..... 10

2.3.3.1. Student Presenters: ..... 10

2.3.3.2. ESP Coordinator ..... 10

2.3.3.3. International HEEP President ..... 10

2.3.3.4. International Judging Panel..... 11

**SECTION 3. Appendices .....12**

3.1. Attachment #1 - ESP Evaluation Guidelines: ..... 12

3.2. Attachment #2 - Evaluator Rating Form ..... 13

## **SECTION 1. Introduction**

The Highway Engineering Exchange Program (HEEP) is an international organization that promotes advances in transportation engineering through the exchange of knowledge and information technology. For more information on HEEP please visit our website at <http://www.heep.org/about.html>.

The HEEP Educator Student Participation program is designed to build closer ties with educators and students interested in the field of transportation engineering, and especially the use of the information systems technology in that field. Civil engineers are important to transportation agencies. Students with interest and high acumen for civil engineering are especially important to HEEP as we may be working side by side in the near future.

Annually, HEEP delegates from State Departments of Transportation around the US, Canada, and Europe attend the International Highway Engineering Exchange Program (IHEEP) Conference. The conference is an opportunity to learn engineering and IT solutions to transportation challenges, to explore the latest trends in transportation technology and share transportation computer program experiences.

## **SECTION 2. Annual Student Competition**

The Annual HEEP conference is held in the fall and hosts a student presentation competition called The Educator and Student Participation (ESP) Program. To qualify, students will submit their abstracts to HEEP representatives for a chance to be selected to compete. The presentations at the conference are judged with the winners receiving cash awards.

The Competition has two components; a national component representing the United States, Areas 1-4, and an international component representing many European countries, Area 5.

By having active educator and student participation, information flows in both directions: what are the practitioners doing, and what are the educators, researchers and students doing. The hope is that educators and students will participate in IHEEP Conference on a continuing basis. Any students either presenting at or attending the IHEEP Conference are encouraged to become Associate HEEP

### **2.1. National (Areas 1-4) Competition**

Each year a student semifinal competition will be held for Areas 1-4. This competition will be based on submitted abstracts and additional interviews.

#### **2.1.1. Guidelines:**

The HEEP Officers which include the International President, Vice President and Secretary are responsible for contacting appropriate educational institutions. It is highly recommended that this search process begin in January or February to allow sufficient time for the abstract reviews before the IHEEP Conference. Each institution contacted should be given information about HEEP, the ESP Program, and encouraged to appoint a HEEP ESP Educator Coordinator from their

institution. This individual should also be encouraged to become a HEEP Associate member. Interested students must submit an abstract of their presentation to the contacting HEEP Officer; specific deadlines will vary from year to year. The abstract should be approximately 500 to 800 words long and can include images. Students are typically at the junior, senior or graduate level, and should be capable of accepting a commitment to attend the IHEEP Conference the following fall if their abstract is selected. There is no entry fee and selected students will be notified by email. Typically, one student from each Officer will be selected to present at the IHEEP Conference. If an Officer is unsuccessful in obtaining participation from a University more than one abstract may be selected from another Officers pool of submittals. The selected students will be required to conduct a 15-minute presentation at the IHEEP Conference. The IHEEP Conference requirements are listed in this document along with the judging criterion.

### **2.1.2. Awards:**

Three students will be awarded a trip to The International Highway Engineering Exchange Program Conference (which includes travel, conference registration, & hotel expenses)

### **2.1.3. Summary of Abstract Submittal Roles and Responsibilities:**

#### **2.1.3.1. *International HEEP President, Vice President and Secretary***

- Each officer is responsible for contacting appropriate educational institutions to inform educators of the competition and ensure students submit their abstracts.
- Each officer will form a committee with-in their agency to review and vote on the winning abstract.
- Each officer may request an interview with the student participants which can be done online or in person.
- Will send a confirmation email to each Student Participant after their abstract is submitted.
- Each officer will inform the ESP Coordinator of the winning abstract.
- Will inform the winning Student Participants that they are eligible to move on to the final round of competition in which they will need to develop a professional electronic presentation for use during their ESP competition presentation at the IHEEP Conference.
- Will notify the non-selected Student Participants.

#### **2.1.3.2. *Educator Coordinators***

- Should inform students of the competition
- Should pre-screen the abstracts before they are submitted to the ESP Coordinator.

#### **2.1.3.3. *Student Participants***

- Are responsible for writing an abstract and submitting it to the HEEP Officer.
- Will provide their name, address, phone number, e-mail address and educational institution when submitting their abstract.

**2.1.3.4. ESP Coordinator**

- Will confirm the date of the ESP IHEEP composition with the International President.
- Will inform the Officers of the abstract submittal deadline and supply a form letter they can send to the Universities.
- Will notify the International President of the names, addresses, phone numbers, e-mail addresses and educational institution of the ESP abstract winners.
- Will confirm deadline for submitting electronic presentations with the International President, and relay this information to the selected ESP Participants.

**2.2. Area 5 Competition**

Each year a student competition will be held at the Area 5 HEEP Meeting. The Area 5 Director and Meeting Host are responsible for organizing this part of the Area Meeting program.

**2.2.1. Guidelines:**

The Area 5 Director and the Meeting Host are responsible for contacting appropriate educational institutions in a timely manner to ensure educator and student participation at the Area 5 Meeting. It is highly recommended that this search process begin in January or February to allow sufficient time to secure student presenters. Each institution contacted should be given information about HEEP, the ESP Program, and encouraged to appoint a HEEP ESP Educator Coordinator from their institution. The Coordinator should pre-screen potential student presentations for acceptability and compatibility with HEEP's purpose and work with the Area 5 Director and Meeting Host to select the students to present at the Area 5 Meeting. It is highly recommended that students be selected from universities that are near to the Area 5 Meeting location so that travel and lodging arrangements or needs are minimized.

Student presenters are registered at the Area 5 HEEP Meeting at no charge, and are encouraged to attend as much of the meeting as possible. Students presenting at the Area 5 HEEP Meeting may come from different educational institutions, are typically at the junior, senior or graduate level, and should be capable of accepting a commitment to attend the IHEEP Conference the following fall if selected as the Area 5 HEEP winner. Each institution should have its student(s) accompanied by the institution's ESP Educator Coordinator. Students should be regarded as "regular" HEEP presenters; that is, abstracts, biographies and handouts are required. Educators and students should be encouraged to become Associate HEEP members.

Students are allowed to present at consecutive Area 5 HEEP Meetings provided their research topic and presentation are substantially different from previous years. Student presentations are expected to be about 15 minutes in length and are made before the general Area Meeting audience and a judging panel. Judges will use the ESP Evaluation Guidelines contained in Attachment #1 of this manual and the ESP Evaluation Form contained in Attachment #2 of this manual to evaluate the presentations.

The Area judging panel is selected by the Meeting Host and should consist of three to five members. HEEP members and Associate HEEP members may be selected for the judging panel.

Upon completion of the Area student presentations, the Area Director and Meeting Host will arrange for the appropriate recognition of the presenters through an awards ceremony. A HEEP certificate of recognition or plaque will be given to each student presenting at the Area 5 Meeting. In addition, cash awards will be given to the student presenters based upon the Area Judging Panel's decision of which student was 1st place, 2nd place and so on. Cash prizes will be made out of the IHEEP Conference account. The Area Director and Meeting host will notify the International President and the ESP Coordinator of the name, address, phone number, and email address for the Area 5 ESP winner immediately after the Area Meeting concludes. The Area Director and Meeting Host duties are to help with the student's preparations for the IHEEP Conference by assisting with making travel arrangements, assisting in registering the student for the IHEEP Conference and arranging an introduction to HEEP and its members at the IHEEP Conference. The Area Director and Meeting Host will be responsible for contacting the second or subsequent place winner if the primary winner cannot attend the IHEEP Conference and also for informing the HEEP ESP Coordinator with the replacement student's information.

The student selected as the Area 5 winner is expected to attend the annual IHEEP Conference and is required to make the same presentation they did at the Area 5 Meeting. The presentation can be improved, but the topic and main substance cannot be changed. In the event that the Area 5 HEEP Meeting ESP winner is a team of two or more students, both students are encouraged to attend the IHEEP Conference. However, the scholarship will pay for only one of the students to attend and present at the IHEEP Conference. The Area 5 Host and/or Area 5 Director may sponsor travel for the other presenter(s) if budget allows.

### **2.2.2. Awards:**

First Place: Trip to The International Highway Engineering Exchange Program Conference (which includes travel, conference registration, & hotel expenses)

Second Place: \$200

Third Place: \$100

Honorable Mention: \$50

### **2.2.3. Summary of Area 5 Roles and Responsibilities:**

#### **2.2.3.1. Student Presenters**

- Will submit an abstract of their presentation topic to the Area Director/Meeting host.
- Will develop a professional electronic presentation for use during their ESP competition presentation.
- Will work with Educator Coordinator to ensure registration, travel and lodging arrangements are completed.
- Will provide the necessary abstract, electronic copy of their presentation, speaker profile, etc. to the Area Director/meeting host for inclusion in the conference materials.
- Is responsible for submitting travel and meal receipts to the Area Director for consideration of reimbursement of travel, lodging or meal expenses.

- Will attend the following: a brief orientation session; the ESP presentations; the ESP awards ceremony; the ESP picture session; and are highly encouraged to attend all other presentations during the Area meeting.

#### ***2.2.3.2. Educator Coordinator***

- Will work in concert with the Area Director/Meeting host to pre-screen and select a slate of presenters from their Institution.
- Should pre-screen the presentations based on the competition criteria defined in the ESP Evaluator section of this manual and based upon pertinence to HEEP members.
- Should escort the selected students to the Area Meeting and assure that registrations are completed for all educator and student attendees.
- Will work in concert with the Area Director/Meeting host and the student presenters to make travel and lodging arrangements for the student presenters.
- Will attend the following: a brief orientation session; the ESP presentations; the ESP awards ceremony; the ESP picture session; and are highly encouraged to attend all other presentations during the Area meeting.

#### ***2.2.3.3. Area Meeting Host***

- Will contact educational institutions in the vicinity of the Area Meeting in a timely manner before the Area Meeting. It is suggested that these institutions be contacted at least 4 months before the Area Meeting. It is at the discretion of the Area Director and Area Meeting Host how many educational institutions are contacted for any given Area Meeting. The purposes of the ESP Program and competition should be explained to each institution contacted. Each institution should be given information about HEEP, the ESP Program and encouraged to appoint a HEEP Educator Coordinator. The number of student presentations should be three to six, depending on the program schedule for the Area Meeting.
- Will select a slate of presenters.
- Is responsible for ensuring student presenters are informed of dates, times and locations for their presentation and all other events or meetings they must attend while at the Area meeting.
- Will assist the Area HEEP ESP Competition winner in preparing for their presentation at the IHEEP Conference, to include help with improving the student's presentation, if requested.
- Is responsible for organizing the ESP presentation and awards ceremony for the Area Meeting program. Is encouraged to work with the ESP Coordinator to ensure consistency in the ESP competition.

#### ***2.2.3.4. Area Director***

- Will have final approval for the number of student presenters at the Area Meeting, particularly if the number exceeds appropriate levels.

- Will select the judging panel that should consist of three to five members. Associate members, vendors, city/county representatives or other HEEP delegates may be selected.
- Has the authority to grant student presenters' requests for reimbursement of travel, lodging or meal expenses incurred by the student presenter to attend the Area meeting. Such reimbursements, if approved, will come from the Area meeting fund.
- Will be responsible for contacting the second, or subsequent, place winner if the primary winner cannot attend the IHEEP Conference.
- Will notify the International President and the ESP Coordinator of the name, address, phone number, e-mail address and educational institution of the Area ESP winner. This notification should be made immediately after the Area Meeting concludes. It is also recommended that a copy of the Area ESP winner's registration, biographical information, abstract and presentation be forwarded to both.

#### ***2.2.3.5. ESP Coordinator or International HEEP President***

- Is responsible for ensuring the Judging Panel understands their roles and responsibilities.
- Is responsible for ensuring the Judging Panel has all of the necessary judging supplies required to fulfill their duties.
- Is responsible for ensuring the Judging Panel meets to determine the ranking of the ESP presenters so that awards may be given accordingly.
- Will arrange for the awarding of certificates to the ESP presenters (it is suggested that the certificates be framed).

#### ***2.2.3.6. International HEEP President***

- Is responsible for obtaining the ESP cash awards from IHEEP Conference account which will be given out at the Area 5 ESP Awards Ceremony.

#### ***2.2.3.7. Area Judging Panel***

- Will use [Attachment #2 - Evaluator Rating Form](#) to evaluate each of the student presenters based upon the criteria defined in [Attachment #1 - ESP Evaluation Guidelines](#).
- Will participate in a discussion and select the ESP Area competition 1st place winner, 2nd place winner and so on.

### **2.3. Final Round - International Highway Engineering Exchange Program (IHEEP) Conference Composition**

#### **2.3.1. Guidelines**

A student competition is held at the International Highway Engineering Exchange Program (IHEEP) Conference. The International President along with the HEEP ESP Coordinator are responsible for organizing this part of the IHEEP Conference program.



Student presenters are registered at the IHEEP Conference at no charge, and are encouraged to attend as much of the Meeting as possible, including the vendor hall and social events. Students should be regarded as “regular” HEEP presenters; that is, abstracts, biographies and handouts are required. Educators and students should be encouraged to become Associate HEEP members. Students are responsible for registering for the IHEEP Conference, with all conference fees waived as part of the scholarship. It is expected that each student should arrive on the day prior to the commencement of the Meeting, and will stay for the duration of the Meeting. Students must communicate any different arrangement to the International President and the ESP Coordinator prior to the beginning of the Meeting. Any transportation costs (air, commercial transfers, etc.) will be paid by HEEP through the IHEEP Conference account. Students will be reimbursed at or after the conference by the International President and/or the ESP Coordinator upon presentation of invoices or receipts for actual expenses. It is encouraged to send receipts prior to the IHEEP Conference when applicable, to make reimbursement as seamless as possible. Foreign students will be reimbursed in US funds, and should be prepared to present appropriate paperwork in US funds. Students are responsible for all phone calls, room service charges extra from regular meals and other miscellaneous charges incurred at the Meeting. Standard meals, such as breakfast, lunch and dinner that are not provided by the IHEEP Conference will be reimbursed by the International President and/or the ESP Coordinator upon presentation of receipts for the actual expenses from the IHEEP Conference account.

Student presentations are expected to be about 15 minutes in length and are made before the general IHEEP Conference audience and a judging panel. Judges will use the ESP Evaluation Guidelines contained in Attachment #1 of this manual and the ESP Evaluation Form contained in Attachment #2 of this manual to evaluate the presentations. The International judging panel is selected by the International President with input from the ESP Coordinator and should consist of three to five members. HEEP members and Associate HEEP members may be selected for the judging panel.

Upon completion of the student presentations, the International President will arrange for the appropriate recognition of the presenters through an awards ceremony. A HEEP certificate of recognition or plaque will be given to each student presenting at the IHEEP Conference. In addition, cash awards will be given to the student presenters based upon the International Judging Panel’s decision on which student was 1st place, 2nd place and so on. Cash prizes will be made out of the IHEEP Conference account.

**2.3.2. Awards:**

First Place: \$1000

Second Place: \$750

Third Place: \$400

Honorable Mention: \$100

### **2.3.3. Summary of IHEEP Conference Roles and Responsibilities**

#### **2.3.3.1. Student Presenters**

- Will develop a professional electronic presentation for use during their ESP competition presentation.
- Will work with Educator Coordinator to ensure registration, travel and lodging arrangements are completed as necessary.
- Will provide the necessary abstract, electronic copy of their presentation, speaker profile, etc well in advance of the IHEEP Conference. It is highly recommended to test the presentation file prior to the ESP Competition.
- Will attend the following: a brief orientation session; the ESP presentations; the ESP awards ceremony; the ESP picture session; and are highly encouraged to attend all other presentations during the IHEEP meeting.
- Is responsible for submitting travel receipts to the International President for reimbursement of approved expenses. All other miscellaneous expenses such as room service, telephone calls, etc. are at the expense of the student.

#### **2.3.3.2. ESP Coordinator**

- Is responsible for working with the International President to ensure the ESP competition is on the IHEEP Conference program and that all arrangements are made for the competition, awards ceremony and picture taking.
- Will confirm with the International President that the ESP cash awards are all in order and ready to be given out at the ESP Awards Ceremony.
- Is responsible for ensuring student presenters are informed of dates, times and locations for all events or meetings they must attend while at the IHEEP Conference.
- At the IHEEP Conference, it is the duty of the ESP Coordinator to arrange a briefing with all students attending to ascertain the effectiveness of the ESP Program. Will coordinate with the International President to arrange a “pre-conference” session for the students, their mentors (if in attendance), Area Officers and International Officers to get acquainted. Traditionally, this session is held either Sunday morning as a “late breakfast” or Sunday afternoon. This will provide an opportunity for the students to have any questions answered and to be better prepared for the week.
- Is responsible for ensuring the International Judging Panel understands their roles and responsibilities.
- Is responsible for ensuring the International Judging Panel has all of the necessary judging supplies required to fulfill their duties.
- Is responsible for ensuring the International Judging Panel meets to determine the ranking of the ESP presenters so that awards may be given accordingly.

#### **2.3.3.3. International HEEP President**

- Will arrange and cover the cost of hotel rooms for each student attending the IHEEP Conference. The cost will be covered by the IHEEP Conference account. The usual cost

per student is for 6 nights (Saturday through Thursday) for up to 4 students, but may be expanded depending on travel time.

- Will cover the cost of 4 student registration fees for the conference. The cost will be covered by the IHEEP Conference account.
- Is responsible to pay for all travel for all students competing at the IHEEP Conference. The cost will be covered by the IHEEP Conference account.
- Will select the panel of three to five people that will judge the ESP competition. This is usually done in cooperation with the ESP Coordinator.
- Will ensure that the student presentation competition is included in the IHEEP Conference program.
- Is responsible for obtaining the ESP cash awards from IHEEP Conference account which will be given out at the ESP Awards Ceremony.
- Will arrange for the creation of framed certificates and is responsible for the awarding of certificates to the ESP presenters (if there is an ESP sponsor they will be asked to present the awards).

#### ***2.3.3.4. International Judging Panel***

- Will use [Attachment #2 - Evaluator Rating Form](#) to evaluate each of the student presenters based upon the criteria defined in [Attachment #1 - ESP Evaluation Guidelines](#).
- Will participate in a discussion and select the ESP IHEEP Conference competition 1st place winner, 2nd place winner and so on.

## SECTION 3. Appendices

### 3.1. Attachment #1 - ESP Evaluation Guidelines:

The purpose of this section is to familiarize you, as an evaluator, with the qualities that are expected to be in a student's presentation. The following are items on which you will be asked to numerically rate the student presenters. A description of each item explains the scope in which rating the particular item is based.

**Presentation Preparation** - Does the student seem organized? Are the student's notes in order? Does the subject matter seem to flow smoothly as if a constant train of thought?

**Understanding of Subject** - As the student presents, is the presentation purely mechanical or does the student seem to have an intimate knowledge of the subject and materials?

**Pertinence of Subject to HEEP Goals and Objectives** - Has the student chosen a subject that is pertinent to the Goals and Objectives of the HEEP organization? How well does the presentation address the importance of Information Technology in the engineering effort?

**Oral Presentation** - How does the student presenter communicate with the audience? Is the student presenter reading from notes, screen or other aid with no perceived interaction with the audience or has the student presenter been able to initiate a link with the audience and is able to maintain a comfortable rapport?

**Interaction with Audience** - As the student speaks, is there a connection with the audience (Eye contact)? Does the student read from prepared notes, screen or other presentation aids without interacting with the audience? Do you get the feeling that the student is speaking directly to you?

**Effective Use of Presentation Aids** - Most presenters at the present time rely on electronic aids to assist them in presenting their topic. The aids typically are comprised of a computer utilizing either presentation software or application specific software used in conjunction with a computer projector and screen. Some presenters may still use flip charts, overhead projectors, presentation boards and other physical graphic aids. As an evaluator, you are not asked to rate the students' presentation aids based on the type of technology chosen, but to rate the students' presentation aids on how well they help the student in conveying the subject of their presentation to the audience.

**Professional Appearance and Demeanor** - Student presenters typically "dress for success" as they know that they are being showcased in front of potential future employers. They most likely will endeavor to look and act in a professional manner. As an evaluator in this category you are asked to rate how well they have done this. Based on your observation of the student, does the student earn your respect as an engineering or information technology professional?

**Response to Questions from Audience** - Can the student respond to audience questions speaking "off the cuff" showing a complete and total knowledge of the subject, or does the student have to keep referring to notes or other presentation aids to assist in formulating answers to questions? While at sometimes questions from the audience may border on "fringe" topics of the main presentation, the student should be familiar enough with the subject matter to be able to quickly and logically formulate a response to the question or request the person asking the question to rephrase in terms more specific to the subject.

**Overall Assessment of the Presentation** - Looking at the student presenter, presentation, aids and interaction as a total package, you are asked to numerically rate how well the entire package was presented.

### 3.2. Attachment #2 - Evaluator Rating Form

Student Name: \_\_\_\_\_ Educational Institution: \_\_\_\_\_

Presentation Name: \_\_\_\_\_

HEEP Area: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Level: Sophomore Junior Senior Graduate

**Rating = Excellent - Very Good – Good – Fair - Poor**

Category	Rating	Notes
Presentation Preparation		
Understanding of Subject		
Pertinence of Subject to HEEP Goals		
Oral Presentation		
Effective Use of Presentation Aids		
Professional Appearance /Demeanor		
Interaction with Audience		
Response to Questions from Audience		
Overall Assessment of the Presentation		

**Over All Ranking 1 2 3 4**

\_\_\_\_\_  
Evaluator Name (Please print)

\_\_\_\_\_  
Evaluator Signature