



# SEAC

## GENERAL NOTES

Structural Engineers Association of Colorado Newsletter

### JANUARY GENERAL MEETING

#### RTD Light Rail Steel Arch Bridge Launch over 6<sup>th</sup> Avenue

## Schedule

**Mark Your Calendar**  
(2011)

### **General Membership Meetings**

(Breakfast 7:30 a.m.)  
January 20  
March 17  
May 19  
July 21  
September 15

### **Business Management Committee Meetings**

(Breakfast 7:30 a.m.)  
February 10  
April 14  
June 9  
August 11  
October 13

### **SEAC Board of Directors Meetings**

(7:30 a.m.)  
January 6  
February 3  
April 7  
June 2  
August 4  
October 6

**Fall Seminar**  
October 20

**Annual Dinner Banquet**  
November 17  
6 - 9 p.m.

If your commute routinely brought you through the 6<sup>th</sup> Avenue corridor next to the Denver Federal Center you saw the progress of the arch bridge being erected next to the highway and wondered how on earth it was going to be placed into its final position. Mr. Reese's company, Summit Engineering Group; provided Erection Engineering and Construction Engineering with design of all falsework and temporary structures including the launching track and trailer system. The entire steel arch structure is fabricated from weathering steel and the arches incline inwards toward each other to form a 'basket-handled tied arch' style of bridge. The signature steel-arch bridge for RTD's West Corridor light rail over the Sixth Avenue Freeway was rolled into place over the highway from its temporary perch on a platform at the Denver Federal Center. This innovative construction method saved time and money for the traveling public and taxpayers.

The arch was launched across the freeway using heavy load trailers and a track system. The installation required a full closure of Sixth Avenue

between Kipling Street and Simms-Union for a single weekend in April. The freeway was re-opened ahead of schedule. Mr. Reese will present on the successes and challenges of this unique project.



Gregg A. Reese, P.E., has worked in the field of structural engineering with a focus on bridge design and construction for over twenty five years. He is the Firm Principal and Chief Bridge Engineer responsible for all engineering services including the design and construction of building, municipal and highway structures. He is a member of PCI and serves on the Bridge Committee. He holds a BSCE and MSE from the University of Texas.

#### **Don't Miss Out - January General Meeting**

**Date:** Thurs. January 20, 2011  
**Speaker(s):** Gregg Reese  
**Location:** Renaissance Denver Hotel  
3801 Quebec Street  
(South of the I-70 Quebec Intersection)

Please e-mail your reservation to **Caryn** at: [seac@martinmartin.com](mailto:seac@martinmartin.com). **Reservations MUST be made By Monday, January 17, 2011.**

## Officers & Board Members



Andrew Kelsey  
President  
Ascent Group Inc.  
303-499-3022  
[a.kelsey@ascentgrp.com](mailto:a.kelsey@ascentgrp.com)



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### Submit comments/articles to:

Caryn Farrell  
Structural Engineers  
Association of Colorado  
c/o **Martin/Martin, Inc.**  
12499 West Colfax Avenue  
Lakewood, CO 80215  
(303) 431-6100 x403  
(303) 431-6866 fax

[seac@martinmartin.com](mailto:seac@martinmartin.com)  
[WWW.SEAColorado.org](http://WWW.SEAColorado.org)

*Information for inclusion in the newsletter must be received one month prior to the next general meeting.*

Caryn L. Farrell  
SEAC Executive Assistant  
[seac@martinmartin.com](mailto:seac@martinmartin.com)

## President's Message

**A**s I begin my year as President of SEAC I am humbled by the work done by so many previous Boards, Committees, and Members, and by the success and growth of our association. I am proud to serve as President for 2011 and hope that I can continue the great work done by past board members. I joined SEAC in 1992 when membership was opened to all structural engineers, EIT's, and business partners. If I had to choose one benefit of membership that stands out, it would have to be the opportunity to learn from, and consult with, so many outstanding professional engineers across Colorado. I recommend to all existing members and to those considering membership that you not only take advantage of your peers talent and experience, but that you consider joining one or more of our many committees and that you put your name in the hat for consideration as one of our Board of Directors. I know that you will be glad you did!

This last year I had the privilege of attending the National Council of Structural Engineer Associations Annual Meeting in Jersey City, New Jersey right across the Hudson River from Ground Zero in New York City. I was able to see how all attending state associations were dealing with the same or similar issues that SEAC experiences. We are all dealing with a down economy, litigation issues, ever expanding building and model codes, and licensure requirements. Yet, each of the attending state SEA representatives were showing through their attendance and committee work that, despite all of the issues we face, volunteering in the cause of promoting the field of Structural Engineering was a priority all across this country. It honestly made me proud to be a member of not only SEAC but

of NCSEA as well. Combine this experience with the presenters we had at last year's membership meetings that portrayed volunteer engineer efforts in South America and Haiti, and militarily in Iraq, it is clear that we all should consider volunteering when presented the opportunity and that we should be proud of our chosen field of engineering. In addition we should remember to thank those who have already given so much as volunteers and members of our military.

I am looking forward to this next year with SEAC which has planned presentations on a Fastrax project, in BIM for small firms, a combined CAGE membership meeting and on Dinosaur National Monument. I also would like to make it clear that your Board of Directors is committed to providing economical and informative services to the SEAC membership. We continually are looking at means to meet the high standards of the membership with financially sound methods. Please let the BOD know if improvements can be made and we hope to see frequent suggestions on content and level of service.

Finally, I want to thank our out-going Board members, Past-President **Elizabeth Jones** and Director **Jeannette Torrents**. Their work on SEAC's behalf has been, and I am sure will continue to be, greatly appreciated. And I want to introduce our new Board members, **Jim Ness**, Secretary, and **Stan Welton**, Director. We appreciate their willingness to serve.

Andrew C. Kelsey, P.E.  
President

## JANUARY SPONSOR: LNA SOLUTIONS THANK YOU



3924A Varsity Drive, Ann Arbor, Michigan 48108, 888-724-2323 fax; 734-677-2339 [www.LNASolutions.com](http://www.LNASolutions.com)

### Pre-Engineered Mechanical Steel Connections offer Advantages for the Addition of Structural Steel Members in Existing Buildings

**LNA Solutions** offers pre-engineered structural steel clamping systems for the connection of secondary steel to primary steel without the need for site drilling or welding. The use of the girder clamping systems is advantageous in that there is:

- No weakening of the primary steel.
- Ease of field adjustments.
- No damage to protective coatings.
- No "hot work" permits are required.
- Reduction in design time.
- Reduces installation time and labor costs.
- No special tools or skilled labor required.

The **LNA Solutions** presentation will include;

- Products and applications.
- Technical considerations for clamping systems.
- Design and selection of clamps.
- Design tools and software.
- Project history.
- Q & A session.

**Speaker:** Frank Buck is the President of **LNA Solutions**, Ann Arbor, Michigan. He has successfully completed and has been awarded degrees in the following programs of study; AE, BSBA and MBA.

# Welcome

Please welcome our newest members to SEAC:

**Christopher Hessek** (Professional Member)  
The Leffler Group

**Jeffrey Thompson** (Affiliate Member)

**Pedro Fernandez** (Professional Member)  
EnCon Design, LLC



## 2011 Membership Dues

Dues notices have been emailed out to all members. Membership payments are due by **January 28, 2011**. Please submit payment **with** the Dues Form. In addition, please provide your email address (see attached Dues Notice form). We want to make sure SEAC has your most current contact information. Thank you for your help!

If you have a change of address, phone, fax, or e-mail. Please e-mail Caryn Farrell at [seac@martinmartin.com](mailto:seac@martinmartin.com)

# GENERAL NOTES - ANNOUNCEMENTS

## SEAC Appoints New Delegate to NCSEA

The SEAC Board of Directors recently appointed **Brent Norris** to become the Colorado delegate to the National Council of Structural Engineering Associations (NCSEA) effective January 1, 2011. Brent becomes SEAC's third delegate to NCSEA in the 16 years since its formation in 1994. **Don Pyle** served as delegate from 1995 – 2001 and **Ben Nelson** served 2001-2010. Brent will attend NCSEA annual conferences each fall together with SEAC's incoming President serving as the alternate delegate. Brent will represent Colorado in voting on matters that come before the assembly and keep SEAC apprised on national issues from NCSEA affecting our profession. Ben Nelson is in his 2<sup>nd</sup> year of Treasurer of NCSEA, leading to his Presidency of NCSEA in 2013.

## SEAC Members Contribute to NCSEA in Big Ways

SEAC members should be proud of several within our organization who are regular contributors on a national basis to improving the structural engineering profession in various roles with NCSEA. The following SEAC individuals contribute to the national structural engineering profession. **Susan Jorgansen** chairs the Structural Licensing Committee which seeks to promote structural engineering practice acts in each state. **John Malcom** is part of the very active Continuing Education Committee which creates and manages NCSEA's national webinars. **Jim Harris** belongs to the Code Advisory Committee and several related sub-committees. **Jerry Maly** is part of the Existing Buildings Sub-Committee of the Code Advisory Committee. **Ben Nelson** is Treasurer of NCSEA as well as a member of the NCSEA Winter Institute planning committee. **Jack Petersen** presented a webinar last April featuring the fine work of the SEAC Steel Liaison Committee's white paper on Architecturally Exposed Structural Steel (AESS). Thanks to all who volunteer their time to improve our profession!

## SEAC Members are featured speakers at the Montana Joint Engineers Conference

SEAC members **Jerry Maly** and **John Reins** were featured speakers at the statewide Joint Engineers Conference (JEC) in Montana in early November. Their tag-team sessions discussed various structural failures around the country and lessons learned from those failures. Approximately 100 were in attendance to hear their discussions during the two-day seminar.



Featured Speakers: John Reins & Jerry Maly





## STRUCTURAL ENGINEERS ASSOCIATION OF COLORADO SEAC MEMBERSHIP DUES NOTICE - 2011

### MEMBERSHIP CATEGORIES

#### Professional Members

Professional engineers registered by the State of Colorado who are actively practicing, teaching or conducting research in the field of structural engineering.

- Local .....\$140.00
- Outside toll-free calling area .....\$60.00

#### Affiliate Members

Persons with an interest in the objectives of SEAC.

- Local .....\$140.00
- Outside toll-free calling area.....\$60.00

#### Student Members .....\$60.00

Full-time students who are pursuing engineering degrees at colleges and universities and who are interested in the practice of structural engineering.

#### Business Management Committee Members .....(additional) \$40.00

#### **Please Attach Payment Along With The Following Page By:**

Friday, January 28, 2011  
*Make check Payable to: **SEAC***  
c/o Caryn Farrell  
Martin/Martin, Inc.  
12499 West Colfax Avenue  
Lakewood, Colorado 80215  
303.431.6100x403

**Please provide member information, including your email address the following page.**

Please provide the following information for each respondent submitting payment using this notice:  
***SEAC will be sending all newsletters and updates via email. Please provide your email address.***

Company Name: \_\_\_\_\_

<u>Member Name &amp; Email</u>	<u>Professional</u>		<u>Affiliate</u>		<u>Student</u>	<u>Member of Business Management</u>	<u>Total Dues</u>
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## Registration Form:

Registration fee: \$350 per day

Registration Fee for both days: \$595

NAME

COMPANY

ADDRESS

CITY

STATE / ZIP

TELEPHONE

EMAIL

☐ Friday (\$350) ☐ Saturday (\$350) ☐ both days (\$595)

☐ Visa ☐ MasterCard ☐ American Express

CREDIT CARD NUMBER

EXPIRATION DATE

SECURITY CODE

SIGNATURE

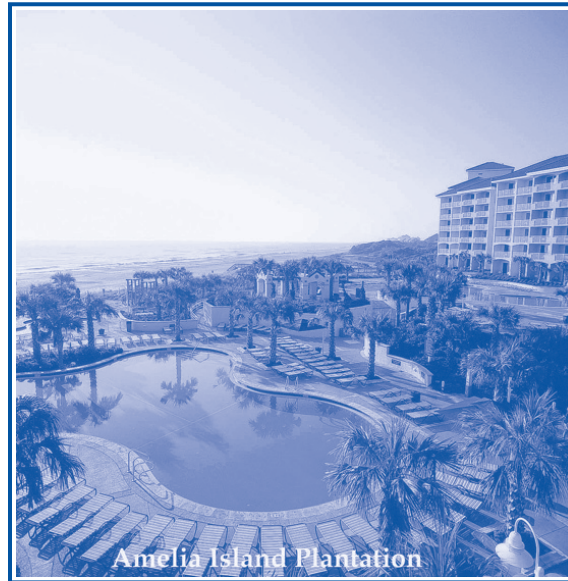
**Mail** this completed Registration Form with check payable to NCSEA to: NCSEA 645 N. Michigan Ave., Suite 540, Chicago, IL 60611.

**Fax** this completed Registration Form with credit card information to: NCSEA 312.649.5840.

**Online** registration at: [www.ncsea.com](http://www.ncsea.com).

**Questions:** Call Jan Diepstra at 312.649.4600, ext. 202.

## Accommodations:



### The Amelia Island Plantation

Amelia Island, Florida 32035

#### RESERVATIONS:

1-888-261-6165

Group number: 022011NCSEAWINT

or

National Council  
of Structural Engineers Associations

*Mention NCSEA Winter Institute  
for a special \$149 room rate  
until February 9.*

*This rate includes the resort fee  
and round-trip airport transportation,  
which must be reserved 72 hours in advance.*



## National Council of Structural Engineers Associations

2011 Winter Institute  
February 25 & 26, 2011

The Amelia Island Plantation  
Amelia Island, Florida

A two-day seminar featuring  
Deferred Submittals: What the EOR  
Needs to Know and Show from  
Design to Construction.

Included in the program Friday are tours  
of the Canam Steel Joist Facility and  
Gate Concrete Products.

# DEFERRED SUBMITTALS: What the EOR Needs to Know and Show from Design to Construction

## Friday, February 25

### 8.0 Professional Development Hours

7:00 a.m.–8:00 a.m. REGISTRATION/CONTINENTAL BREAKFAST

8:00 a.m.–8:30 a.m. **Deferred Submittals Gone Wrong**

Introduction of topic: *Ben Nelson, Martin/Martin, Inc.; Tom DiBlasi, DiBlasi Associates, P.C.; Tom Grogan, Haskell*

8:30 a.m.–9:45 a.m. **Building Officials Have Their Say**

The complexity of deferred submittals is not often appreciated by the structural engineer, nor fully comprehended by the contractor. There will be a case study and the pros and cons of deferred submissions, and concerns building departments encounter during the permitting process when deferred submissions are used, will be discussed.

*Ron Lynn* is president of the ICC Board of Directors and a certified building official with the Clark County, NE, Department of Development Services—Building Division.

*Jim Schock* is chairman of the Structural Technical Advisory Committee to the Florida Building Commission and a certified building official with Jacksonville, FL.

9:45 a.m.–10:00 a.m. BREAK

10:00 a.m.–11:15 a.m. **Non-Standard Steel Joists**

The communication between, and the responsibilities of, the project registered design professional and the joist manufacturer for non-standard steel joists will be reviewed. IBC section 2206 will be discussed, along with types and formats for steel joist calculation submittals.

*Tim Holtermann*, based in Washington, MO, is the corporate engineering manager for the Canam Steel Corporation.

11:15 a.m.–12:30 p.m. **Design Responsibility for Engineered Precast Systems**

Discussion will include how best to convey necessary design information in the contract documents and how to deal with issues related to precast concrete lateral load resisting systems, as well as approaches to avoid RFIs and design omissions.

*Tim Salmons* is a precast design engineer who worked 10 years for various precast concrete manufacturers before co-founding Salmons, P.C. in Albuquerque, NM, in 1997.

12:30 p.m.–1:00 p.m. LUNCH

1:00 p.m.–1:30 p.m. **Moderated Discussions En Route to Facility Tours**

1:30 p.m.–2:30 p.m. **Tour of Canam Steel Joist Facility**

See and learn about joist fabrication and metal decking; then view a film on standard load testing and BIM. *Tim Holtermann*, chief engineer, Canam Steel Corporation

3:00 p.m.–4:30 p.m. **Tour of Gate Concrete Products Facility**

Tour the facility and lab to see pretest of design mixes, production of hollow core slabs and load testing. *Tom Newton*, vice president operations, Gate Concrete Products

6:00 p.m.–7:00 p.m. RECEPTION—  
Sponsored by the  
Florida Structural Engineers  
Association

## Saturday, February 26

### 7.5 Professional Development Hours

7:00 a.m.–8:00 a.m. REGISTRATION/CONTINENTAL BREAKFAST

8:00 a.m.–9:30 a.m. **Specifying Wood & Cold-Formed Steel Trusses—Avoiding Pitfalls and Unnecessary Liability**

This session will explore some of the pitfalls of specifying pre-manufactured trusses, including the very different expectations of “who is responsible for what” on the parts of the SER, the truss industry, contractors, and the building department.

*Ed Huston*, principal in the firm of Smith and Huston, Inc., Seattle, WA, is a licensed civil and structural engineer in Washington, experienced in structural design, evaluation, investigation and code standards development.

9:30 a.m.–9:45 a.m. BREAK

9:45 a.m.–11:00 a.m. **Cold-Formed Steel Submittals—Expectations and Performance of Structural and Specialty Engineers**

The responsibilities of all members of the construction team with respect to the use of cold-formed steel products, and with particular emphasis on the roles of the SER and the specialty structural engineer and the liability for design assumed with each of these arrangements, will be discussed, along with recent case histories.

*Steve Walker* is the principal engineer of the Light Gauge Steel Engineering Group, Inc. (LGSEG), experienced in the design of structural framing systems and a member of the subcommittee that developed and periodically updates the AISI Code of Standard Practice for the Cold-Formed Steel Structural Framing Industry.

11:00 a.m.–12:30 p.m. **Current Trends in Professional Liability & Risk Management**

The focus will be on duties and limitations when providing construction phase services, important contract provisions that are frequently the subject of difficult negotiations, and how poorly worded provisions may impact a design professional.

*Brian Hader*, Suncoast Insurance, is a specialist in professional liability insurance and loss prevention education for architects and engineers.

*Colleen Palmer*, Beazley Insurance, an industry professional and, formerly, a practicing attorney, specializes in providing risk management services to design professionals and conducting risk management seminars.

12:30 p.m.–1:30 p.m. LUNCH & PRESENTATION—  
Sponsored by Fyfe Company.

How to avoid deferred submittal problems when specifying fiber reinforced polymer (FRP) for the structural upgrade of concrete. *Scott Arnold, P.E.*

1:30 p.m.–2:45 p.m. **Deferred Submittal Documentation—What You Really Need to Show Regarding Deferred Submittals**

Why is it important to clearly identify what scope is covered by the EOR and what scope requires design by a specialty engineer? IBC requirements for deferred submittal documentation will be reviewed, along with common problems and the avoidance of unnecessary risks with various deferred submittal items.

*C. Ben Nelson*, Martin/Martin, Inc., has structural engineering experience with a wide variety of materials and building types, many of which include some aspect of deferred submittals.

2:45 p.m.–3:00 p.m. BREAK

3:00 p.m.–4:30 p.m. **Deferred Submittals—Lessons Learned**

Panel Discussion:

- Prevention of problems
- Pre-engineered metal buildings
- Foundations not correctly prescribed
- An inordinate amount of changes





## Deferred Submittals: What the EOR Needs to Know and Show From Design to Construction

*Omni Amelia Island Plantation Resort*



**Friday, February 25**

**8.0 Professional Development Hours**

### Deferred Submittals Gone Wrong

Introduction of topic and personal experiences. *Ben Nelson, Martin/Martin, Inc., Lakewood, CO, Tom DiBlasi, DiBlasi Associates, P.C., Monroe, CT, and Tom Grogan, Haskell, Jacksonville, FL.*

### Building Officials Have Their Say

Can SE's get themselves into trouble by improperly dealing with deferred submittals? No question, according to these building officials. Take this opportunity to gain a better understanding of the permitting process using deferred submissions. *Ron Lynn, Clark County, NV, and Jim Schock, Jacksonville, FL.*

### Non-Standard Steel Joists

What are the responsibilities of the project registered design professional and the joist manufacturer for non-standard steel joists? What do you know about steel joist calculation submittals? *Tim Holtermann, Canam Steel Corporation, Washington, MO.*

### Design Responsibility for Engineered Precast Systems

How do you divide design responsibilities when specifying precast concrete components and systems? Discussion will include how best to convey necessary design information in the contract documents and how to deal with issues related to precast concrete lateral load resisting systems, as well as approaches to avoid RFIs and design omissions. *Tim Salmons, Salmons, P.C., Albuquerque, NM.*

### Moderated tours of the Canam Steel Joist Facility and the Gate Concrete Products Facility, Jacksonville, FL

**Saturday, February 26**

**7.5 Professional Development Hours**

### Specifying Wood and Cold-Formed Steel Trusses – Avoiding Pitfalls and Unnecessary Liability

Pre-manufactured trusses: Who is responsible for what, when it comes to the SER, the truss industry, contractors, and the building department? What are some of the pitfalls of specifying pre-manufactured trusses? *Ed Huston, Smith and Huston, Inc., Seattle, WA.*

### Cold-Formed Steel Submittals – Expectations and Performance of Structural and Specialty Engineers

While some cold formed steel (CFS) products require specialty engineering, others do not. What are the responsibilities of all members of the construction team, particularly the Structural Engineer of Record and the Specialty Structural Engineer? Who assumes liability for design? *Steve Walker, Light Gauge Steel Engineering Group, Inc., Oakland, Florida.*

### Current Trends in Professional Liability & Risk Management

What are the duties and limitations when providing construction phase services? Which contract provisions are frequently the subject of difficult negotiations? How can poorly worded provisions impact the design professional? *Brian Hadar, Suncoast Insurance, and Colleen Palmer, Beazley Insurance.*



Ron Lynn



Jim Schock



Tim Holtermann



Tim Salmons



Ed Huston



Steve Walker

## Lunch Presentation

Sponsored by Fyfe Company

How do you avoid deferred submittal problems when specifying fiber reinforced polymer for the structural upgrade of concrete?

*Scott Arnold, P.E.*

## Deferred Submittal Documentation – What You Really Need to Show Regarding Deferred Submittals

Why is it important to clearly identify, in the contract documents, what scope is covered by the EOR and what scope requires design by a specialty engineer? How can you avoid unnecessary risks? *C. Ben Nelson, Martin/Martin, Inc., Lakewood, CO.*



Brian Hader



Colleen Palmer



C. Ben Nelson

Register at

[www.ncsea.com](http://www.ncsea.com)

## Deferred Submittals – Panel Discussion of Lessons Learned

Problem prevention, pre-engineered metal buildings, incorrectly-prescribed foundations, inordinate numbers of changes, and more.

## Networking Opportunities:

Reception Thursday evening, February 24, 6:30 p.m. – 7:30 p.m.

Reception Friday evening, February 25, 6:00 p.m. – 7:00 p.m.

*sponsored by the Florida Structural Engineers Association*

## Cost and Registration:

Breakfast, lunch, breaks and receptions included in price: \$350 per day, or \$595 for both days

## Accommodations:

### Omni Amelia Island Plantation Resort

Amelia Island, FL 32035

NCSEA Winter Institute rate until February 9: \$149

Reservations: 1-888-261-6165

Group number: 022011NCSEAWINT or National

Council of Structural Engineers Associations

Free roundtrip airport transportation to/from Jacksonville airport, provided you reserve 72 hours in advance.

## Upcoming NCSEA Webinars:

- January 25, 2011:** Heavy Timber Connections: Mistakes and Lessons Learned – *Ben Brungraber*
- February 10, 2011:** Detailing of Unbonded Post-Tensioned Structures to Minimize the Effects of Restraint to Shortening – *Bryan Allred*
- March 1, 2011:** Building Information Modeling in Structural Engineering Practice Today – *David J. Odeh*
- March 10, 2011:** Post-Tensioned Slabs on Ground Design – *Bryan Allred*
- April 19, 2011:** Code Issues in Existing Buildings: Archaic and Obsolete Structures – *Donald Friedman*
- May 17, 2011:** AISC T.R. Higgins Lecture—The AISC Seismic Design Provisions: Past, Present and Future – *James O. Malley*

## NCSEA/Kaplan Structural Engineering Exam Review Course

Obtain two weekends (12 hours each) of targeted review, sitting in front of your computer, with 24/7 playback. Review anytime. Instructors are knowledgeable, hand-picked and recommended by your peers:

**January 29-30: Vertical Forces Review.**

**February 12-13: Lateral Forces Review.**

Visit [www.ncsea.com](http://www.ncsea.com) and follow the “Hot Topics” link for the NCSEA/Kaplan SE Exam Review Course, to register and for more information on the course and the instructors.