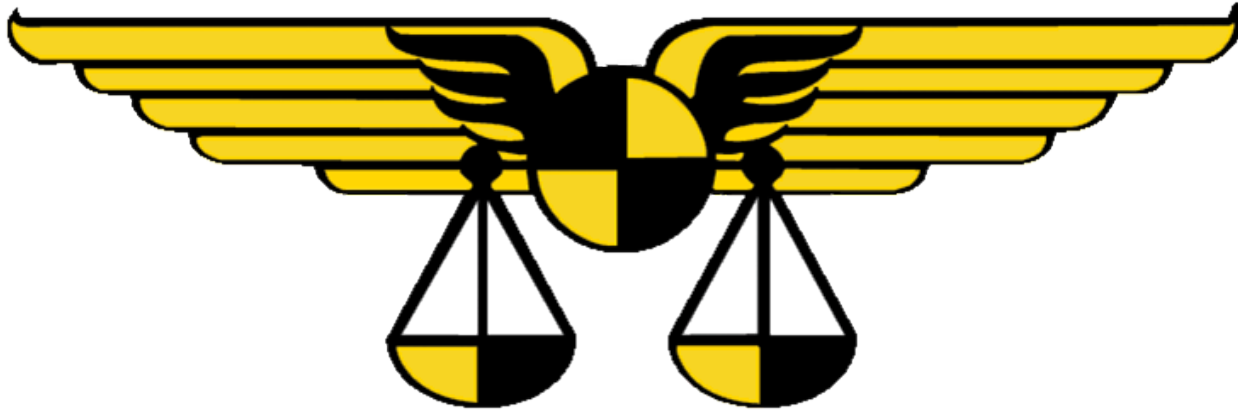




Society of Allied Weight Engineers, Inc.

Aerospace • Marine • Offshore • Land • Allied Industries

Welcome to SAWE



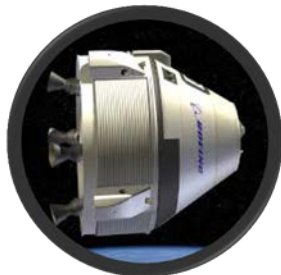


Who is SAWE?

- **We are a Non-Profit International Organization of Mass Properties Engineers founded in 1939**
- **Our Purpose:**
 - To promote the Mass Properties discipline
 - To provide a medium for exchanging recommended practices based on experience and innovation
 - To foster technical excellence and superior quality in mass properties prediction, control and validation
- **22 Chapters in the US, Canada, South America, UK and Europe**
- **15 Corporate Members and Partners**

Industries Served by SAWE

- **Initially - Society of Aeronautical Weight Engineers**
- **1973 - Renamed Society of Allied Weight Engineers to include:**
 - Aerospace – aircraft, missiles, space, electronics, ...
 - Marine – surface, cargo, submarines, ...
 - Offshore Platforms – oil and gas, launch/landing, ...
 - Land Vehicles – automotive, armored, construction, ...
 - Allied Industries – scales, equipment, software, ...





SAWE Leadership

| Position | Officer | Organization |
|--------------------------|-------------------------|--------------------------------|
| President | Bill Boze | Huntington Ingalls Industries |
| Executive VP | Clint Stephenson | S&K Global Solutions |
| Senior VP | Ruben González-González | Airbus |
| VP Publications | Nicholas Marickovich | Huntington Ingalls Industries |
| VP Technical | Robert Zimmerman | Lockheed Martin - Retired |
| VP Training | Dan Rowley | Northrop Grumman |
| VP Vendor Relations | Paul Kennedy | Space Electronics |
| VP Internet | Andrew Brooks | Lockheed Martin Aeronautics |
| VP Standards & Practices | Andreas Schuster | SBM Offshore - Retired |
| VP Academic Affairs | Dr. Donna Gerren | University of Colorado Boulder |
| Executive Director | Ron Fox | SAWE, Inc. |

Why is Mass Properties Control important?

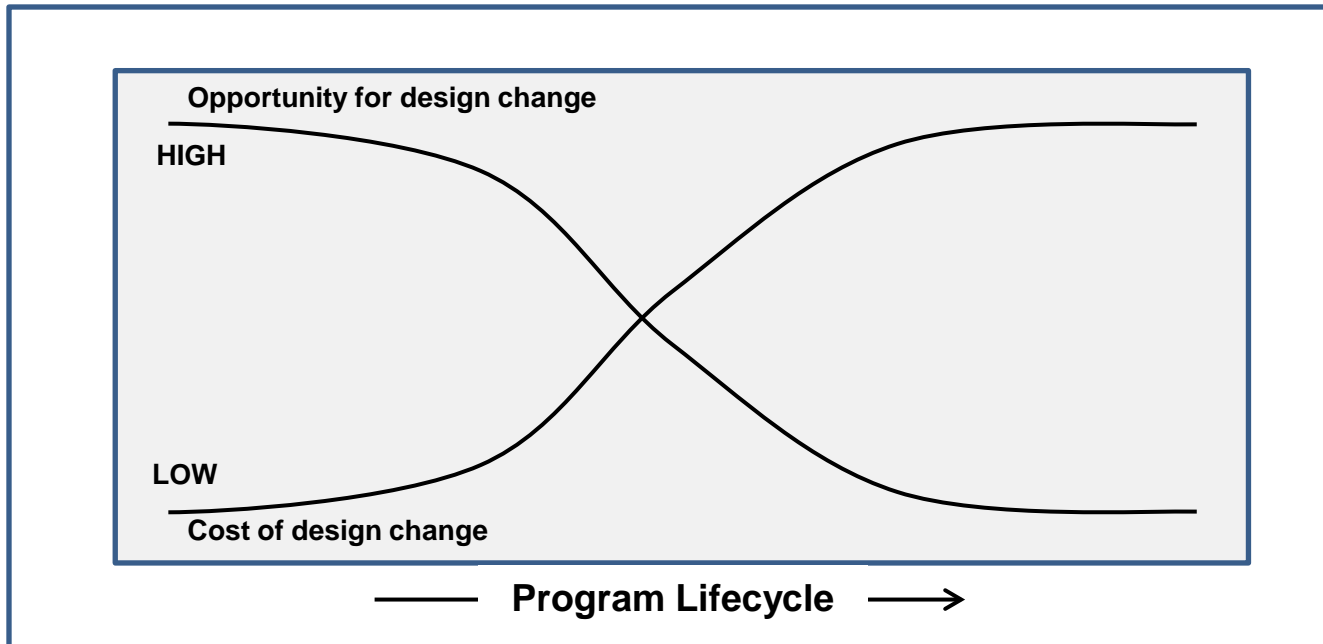
- Weight, Center of Gravity, Moments and Products of Inertia are **critical** for vehicle safety and performance





Why is Mass Properties Control important?

- **Cost of weight growth and balance issues increases dramatically as your programs progress**





Why is SAWE important?

- **Mass Properties discipline often overlooked**
 - Not specifically in college curriculum even though it is integral to every product and system
 - Company Management mistakenly thinks CAD can do it all
 - Inadequate staffing/skills increases program risk
 - Aging workforce in this crucial discipline
 - 62% retiring over next 10 years*
- **SAWE provides:**
 - Proven processes and experience for mass properties control
 - Educational resources for ensuring a skilled workforce
 - International collaboration between industry and governments
 - Venue for sharing and discovering new methods and lessons learned

**The Health of Mass Properties Engineering - 2018 Industry Survey*



How do Individual Members benefit?

- **Networking**
 - Collaborate with peers at chapter meetings and regional and international conferences
 - Mentor the next generation and learn from experts
 - Discover career opportunities
 - Make lifelong friendships



How do Individual Members benefit?

- **Publications**

- Members Only access to the premier source for Mass Properties literature
- Extensive Library of over 3000 Technical Papers*
- 3 issues of Weight Engineering Journal per year
- SAWE Blog
- Discounts for all SAWE publications and textbooks
- Free SAWE Handbook (digital) plus updates

* 10 free downloads/year



How do Individual Members benefit?

- **Training**
 - Variety of courses from analytical methods to measurement techniques taught by experts online, onsite, or at conferences
 - Improve technical capabilities and skills



Classroom



Hands on



How do Individual Members benefit?

- **Scholarships***

- SAWE Scholarship - \$1000 (2 awarded/year typically)
 - Applicants must be high school seniors or graduates who plan to enroll or students who are already enrolled in a full-time undergraduate course of study at an accredited four- year college or university.
- Frank Fong Memorial Scholarship - \$1000 (1 awarded/year)
 - Same requirements as above, but applicant must be majoring in a scientific field (e.g. engineering, physics, mathematics, computer sciences, etc.)
- Annual Conference Scholarship - \$1000 (1 awarded/year)
- Chapter Scholarships
 - Amount determined by individual Chapter

*For student members and children or grandchildren of members active for at least 1 year



How do Individual Members benefit?

- **Recognition**

- Awards for advancing the Mass Properties discipline
 - Best Student Paper Award
 - Ed Payne Young Engineer Award
 - L. R. “Mike” Hackney Best Paper Award
 - Special Merit Award
 - SAWE Fellow
 - SAWE Honorary Fellow
 - SAWE Richard Boynton Lifetime Achievement Award





How do Individual Members benefit?

- **Leadership Development**
 - SAWE helps you:
 - Innovate
 - Create
 - Solve problems
 - Make a difference locally and globally!
 - Numerous opportunities to get involved and lead
 - Local Chapter Positions
 - International Officer Positions
 - Committee Chairs



How do Company Members benefit?


- **Skilled Workforce**

- Mass Properties Engineers properly trained with access to the latest knowledge base
- Program risk reduced through proper application of proven processes
- Lessons learned passed on to younger generation starting at the college level



How do Company Members benefit?

- **Standards**
 - Gain access to proven recommended practices created through years of SAWE, industry and government collaboration
 - Help shape these standards


| | |
|--|---|
|  <p>INTERNATIONAL SOCIETY OF ALLIED WEIGHT ENGINEERS, INC. <i>Serving the Aerospace - Shipbuilding - Land Vehicle and Allied Industries</i> Executive Director P.O. Box 60024, Terminal Annex Los Angeles, CA 90060</p> | <p>RECOMMENDED PRACTICE NUMBER <u>7</u></p> <p>Date Issued <u>May 18, 2004</u></p> |
|--|---|


**MASS PROPERTIES
MANAGEMENT AND CONTROL
FOR MILITARY AIRCRAFT**

Revision Letter D

Prepared by
Government - Industry Workshop
Society of Allied Weight Engineers, Inc.

All SAWE technical reports, including standards applied and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAWE standard or recommended practice, and no commitment to conform to the policy of any technical report. In formulating and approving technical reports, the SAWE will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents. In summarizing the above, if the recommended practice is incorporated into a contract, it shall be binding to the extent specified in the contract.

 **SAWE RECOMMENDED PRACTICE**


| | |
|--|---|
|  <p>INTERNATIONAL SOCIETY OF ALLIED WEIGHT ENGINEERS, INC. <i>Aerospace - Marine - Offshore - Land Vehicle - Allied Industries</i> Executive Secretary P.O. Box 60024, Terminal Annex Los Angeles, CA 90060</p> | <p>RECOMMENDED PRACTICE NUMBER <u>8/A-7</u></p> <p>Date Issued <u>July 1, 2015</u></p> |
|--|---|


**Weight and Balance Data Reporting Forms
for Aircraft (Including Rotorcraft and
Air-Breathing Unmanned Aerial Vehicles)**

Revision B

Prepared by
Standards and Practices Committee
Society of Allied Weight Engineers

All SAWE technical reports, including standards applied and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAWE standard or recommended practice, and no commitment to conform to the policy of any technical report. In formulating and approving technical reports, the SAWE will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents. In summarizing the above, if the recommended practice is incorporated into a contract, it shall be binding to the extent specified in the contract.

 **S.A.W.E. RECOMMENDED PRACTICE**

| | |
|---|---|
|  <p>INTERNATIONAL SOCIETY OF ALLIED WEIGHT ENGINEERS, INC. <i>Serving the Aerospace - Shipbuilding - Land Vehicle and Allied Industries</i> Executive Secretary P.O. Box 60024, Terminal Annex Los Angeles, CA 90060</p> | <p>RECOMMENDED PRACTICE NUMBER <u>9</u></p> <p>Date Issued <u>11/21/2000</u></p> |
|---|---|

**WEIGHT AND BALANCE CONTROL
FOR
GUIDED MISSILES**

Prepared by
Government - Industry Workshop
Society of Allied Weight Engineers, Inc.

All SAWE technical reports, including standards applied and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAWE standard or recommended practice, and no commitment to conform to the policy of any technical report. In formulating and approving technical reports, the SAWE will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents. In summarizing the above, if the recommended practice is incorporated into a contract, it shall be binding to the extent specified in the contract.



How much does it cost?

| Level | Cost |
|--|---|
| Company | |
| <ul style="list-style-type: none">Member Level 1Member Level 2Silver PartnerGold Partner | <ul style="list-style-type: none">\$600/year\$1,000/year\$5,000/year\$15,000/year |
| Individual | |
| <ul style="list-style-type: none">New MemberMemberRetired MemberStudent MemberLifetime | <ul style="list-style-type: none">\$30/1st year\$60/year\$30/yearFree (pending verification)\$900 |



What is included in Company Membership?

| Benefit | Level 1 | Level 2 | Silver | Gold |
|--|---------|---------|--------|-----------|
| Annual International Conference Proceedings | ✓ | ✓ | ✓ | ✓ |
| SAWE Weight Engineering Journal | ✓ | ✓ | ✓ | ✓ |
| Listing on SAWE Website | ✓ | ✓ | ✓ | ✓ |
| Open access to SAWE Technical Library (* limited to 100/year, ** limited to 200/year) | ✓* | ✓** | ✓ | ✓ |
| Open access to SAWE Standards and Practices | ✓ | ✓ | ✓ | ✓ |
| 10% Discount on Annual Advertising Rates | ✓ | ✓ | ✓ | ✓ |
| Reduced rate for Onsite Group Training | 5% | 5% | 10% | 15% |
| Complimentary Individual Memberships | | 1 | 3 | 5 |
| Seat on Board of Directors | | ✓ | ✓ | ✓ |
| Voting privileges on Board of Directors | | | ✓ | ✓ |
| Standards and Practices Committee Memberships | | | 1 | 2 |
| One Conference Exhibit Space w/ two 3-day Registrations | | | ✓ | ✓ |
| Two 3-day International Conference Registrations | | | | ✓ |
| One 1-day Training Course Registration | | | | ✓ |
| Job Postings for Open Mass Properties Positions on SAWE Website | | | | ✓ |
| Color Ad in the International Conference Program | | | ½-page | Full-page |
| Choice of ½-Page Color Ad in one edition of Weight Engineering Journal or 3-month Ad on Website | | | ✓ | |
| One full-page Color Ad in each edition of Weight Engineering Journal and full-year ad on Website | | | | ✓ |

Where can you learn more?

- <https://www.sawe.org>



SOCIETY OF ALLIED WEIGHT ENGINEERS
Aerospace • Marine • Offshore • Land Vehicle • Allied Industries

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Main menu

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- Chapters
- Conferences
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- Standards & Practices
- Publications
- Training
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- About this Site
- Join/Renew

Paper Database

- SAWE Paper Database
- Conference Proceedings
- Ordering and Downloading Papers

SAWE Workspaces

- SAWE Group-Office

Member Login

Username or e-mail *
Password *

The Society of Allied Weight Engineers (SAWE) is an international organization whose purpose is to promote the mass properties discipline and provide members and industry a medium for exchanging practices and experiences with the objective of fostering a higher degree of quality in mass properties control. Regular chapter meetings, regional and international conferences, plus an array of technical papers, reference books, industry standards and training curriculum provide mass properties engineers and industry that opportunity to learn, collaborate, create, and broaden the capability of the mass properties engineer, organization or program. The Society is organized into 22 chapters with members from across the United States, Brazil, Europe, United Kingdom, and Canada.

Weight Engineering - Spring 2018
WEIGHT ENGINEERING
SAWE INTERNATIONAL JOURNAL OF WEIGHT ENGINEERING
Volume 77 - Spring 2018 - No. 3

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- The Myths of Weight Control by Franklin Johnson
- A Path to an Enduring Career in Mass Properties by Dominic Cimino
- Simultaneous Use of Multiple Load Measuring Devices For Weighings in the Offshore Oil & Gas Industry by Dave Bennett

OTHER

- President's Message
- Index of Advertisers
- SAWE Corporate Partners

Upcoming Events

- 2018 Hampton Roads Regional Conference and Planning Meeting
Sep 13, 2018 to Sep 15, 2018
- 78th SAWE International Conference on Mass Properties Engineering
May 18, 2019 to May 23, 2019

SAWE Blog

- Success in Weight Control
- Message from new Honorary Fellow
- Call to the SAWE Membership – Academic Committee Needs your Help!
- SAWE Executive Director Job Opportunity
- Technical Input on In Service Weight Control

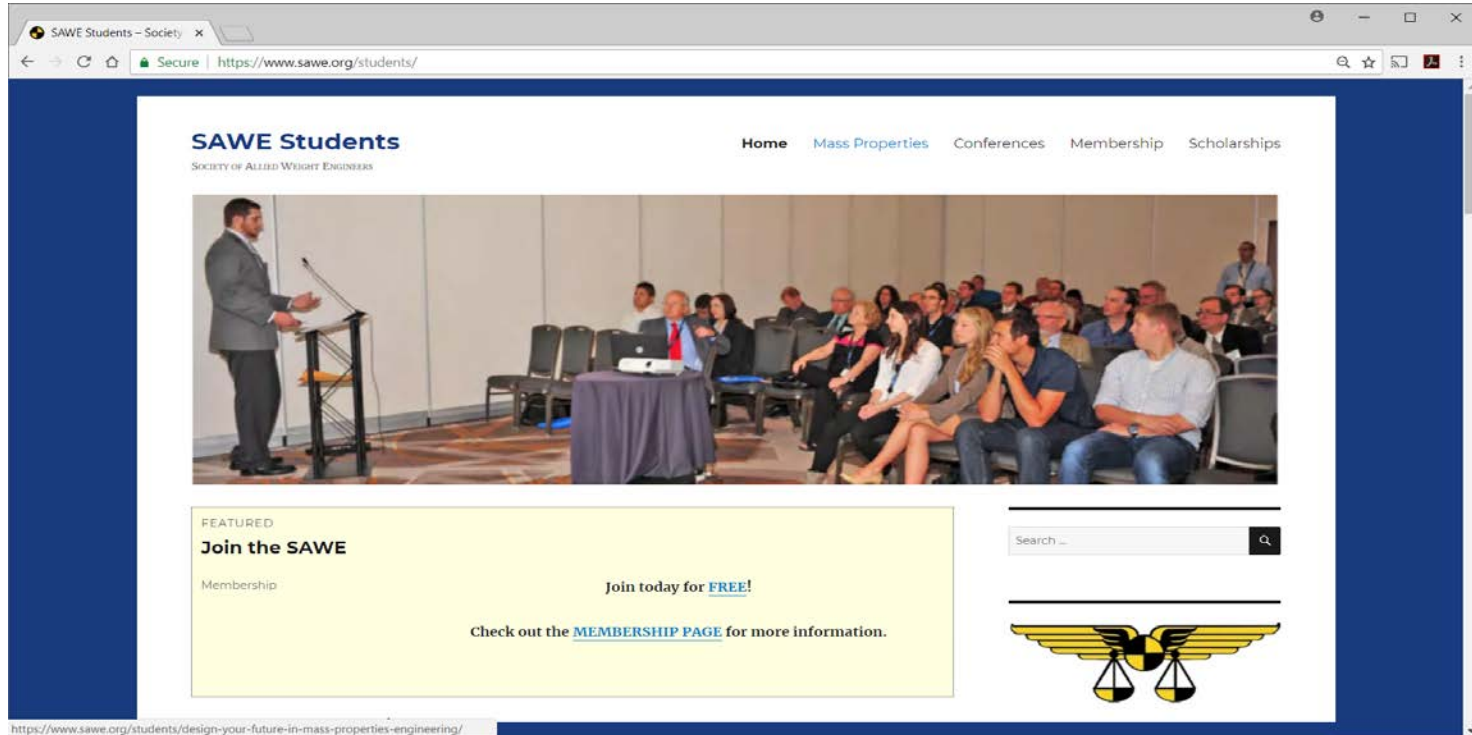
Weight Engineering
SAWE INTERNATIONAL JOURNAL OF WEIGHT ENGINEERING

In This Issue...

- Review of the Air Pollution Testing of the 2018 World Weight Engineering Conference Page 12
- SAWE News Report 2018 WEE Page 13
- The Weight Engineering Council Page 14
- A Path to an Enduring Career in Mass Properties Page 15
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Where can you learn more?

- <https://www.sawe.org/students/>




The screenshot shows a web browser window displaying the SAWE Students website. The browser's address bar shows the URL <https://www.sawe.org/students/>. The website has a dark blue header with the text "SAWE Students" and "SOCIETY OF ALLIED WEIGHT ENGINEERS". Navigation links include "Home", "Mass Properties", "Conferences", "Membership", and "Scholarships". A large photograph shows a man in a suit speaking at a podium to an audience. Below the photo is a yellow box with the text "FEATURED Join the SAWE Membership Join today for FREE! Check out the MEMBERSHIP PAGE for more information." A search bar is located on the right side of the page, and the SAWE logo is at the bottom right.

SAWE Students
SOCIETY OF ALLIED WEIGHT ENGINEERS

Home Mass Properties Conferences Membership Scholarships

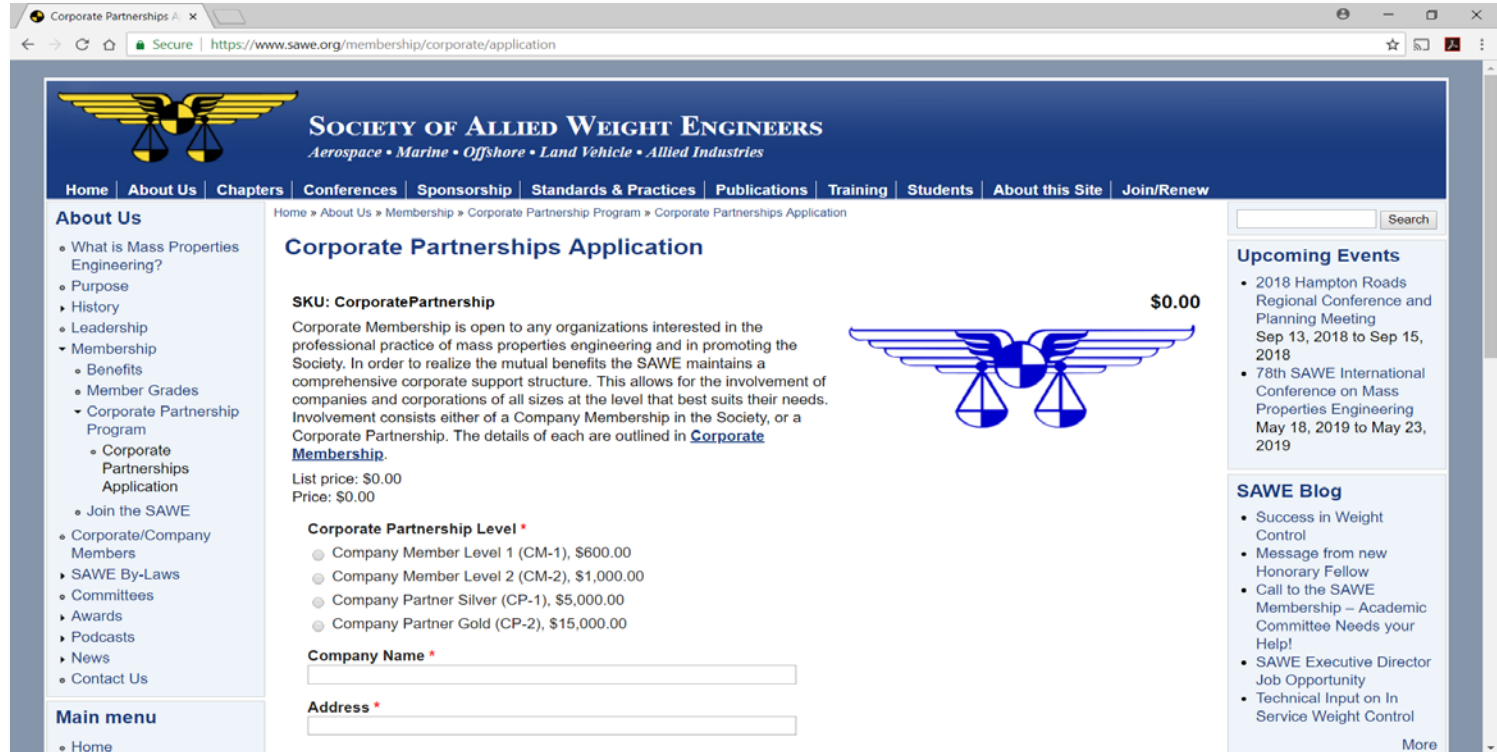
FEATURED
Join the SAWE
Membership
Join today for **FREE!**
Check out the [MEMBERSHIP PAGE](#) for more information.

Search



How can you partner with us?

- <https://www.sawe.org/membership/corporate/application>

A screenshot of a web browser displaying the SAWE Corporate Partnerships Application page. The browser's address bar shows the URL "https://www.sawe.org/membership/corporate/application". The page has a blue header with the SAWE logo and the text "SOCIETY OF ALLIED WEIGHT ENGINEERS" and "Aerospace • Marine • Offshore • Land Vehicle • Allied Industries". Below the header is a navigation menu with links: Home, About Us, Chapters, Conferences, Sponsorship, Standards & Practices, Publications, Training, Students, About this Site, and Join/Renew. The main content area is titled "Corporate Partnerships Application" and includes a sub-header "SKU: CorporatePartnership" and a price of "\$0.00". The text describes the benefits of Corporate Membership and provides a list of prices for different levels of Corporate Partnership. There are input fields for "Company Name" and "Address". The left sidebar contains an "About Us" section with links to various topics, and a "Main menu" section with a link to "Home". The right sidebar contains an "Upcoming Events" section with a list of events and a "SAWE Blog" section with a list of blog posts.

Come and Join Us!

- **Help us ensure the high quality of Mass Properties Engineering for your company**
- **Help us keep our critical discipline alive and well**
 - Encourage your employees to become members
 - Support them in writing technical papers
 - Send them to conferences and training
 - Sponsor our conferences
- **Your Company and SAWE share the same goals for excellence in Mass Properties Engineering**

Help Us Help YOU!

