

# STUDENT CHAPTER HANDBOOK

# INTRODUCTION

The American Solar Energy Society (ASES) has professional chapters all over the United States. As a student, being part of a student chapter of ASES has multiple benefits: technology experts, net-working and an audience through Solar Today magazine.

# **ASES**

Established in 1954, ASES is a 501(c)(3) non-profit. Like-minded members advocate for sustainable living and 100% renewable energy. We share information, events and resources to cultivate community. We empower progress in the U.S. and beyond. As the U.S. section of the International Solar Energy Society (ISES), we work with individuals and groups around the world to accelerate the transition to the use of 100% renewable energy and a sustainable society.

ASES is unique in our integrated perspectives of science, industry, policy and citizens. Together, these valuable viewpoints represent the sum of possibility that has delivered solar and renewable energy to the respected space it now occupies in the energy landscape. We remain committed to this community for the promise it holds for the future.

We believe knowledge and community are a powerful combination for change. Through trusted, well-researched content and comprehensive, thoughtful perspectives, we continue to nurture a transition to a more sustainable world. Through signature publications such as Solar Today magazine and annual events like the National Solar Tour and National Solar Conference, we engage individuals, businesses and partnering groups to advance the possibilities of sustainability and renewable energy in the U.S. ASES fosters an informed, inclusive society by presenting technical data and academic research in highly relatable, engaging formats to the greater community.

ASES chapters are independent organizations. Each chapter has their own memberships, dues structures, board of directors, visions, missions and programs. Collectively, they work with ASES to build stronger solar and renewable energy

communities while being responsive to local and regional challenges and opportunities.

We have student and non-student chapters serving most of the United States. These offer opportunities to get to know and engage with the renewable energy landscape in your community.

#### **ABOUT THIS GUIDE**

This guide is meant for students, school staff/faculty, and ASES Full Chapter members who are interested in starting up a student chapter at a high school, college, or university. However, this guide is also meant to help students maintain their student chapters. To run a successful organization, it is suggested to follow this guide and maintain constant contact with the Student Chapter Coordinator.

## STUDENT CHAPTER COORDINATOR

ASES has a Student Chapter Coordinator (SCC) who is meant to be a resource for student chapters. All student chapters shall keep in contact with the SCC. The Student Chapter Coordinator shall give guidance to the chapters.

The leadership team of each student chapter will be required to have monthly meetings with the SCC, either in person or via video chat. This meeting could consist of either just the president and vice president, or the entire executive board. Student chapters are also required to send the SCC a semester report once a semester, including a fall report and summer events, if any.

#### STUDENT CHAPTERS AND ASES

Student chapters are encouraged to be a part of ASES activities, such as the ASES annual solar conference and the National Solar Tour. Being a part of ASES allows networking, which may lead to full-time jobs, internships, or other positions. Furthermore, members of ASES range from technical professionals in both industry and academia, to CEOs of solar companies, political scientists, and more. There is much to learn from our ASES members. In order to remain affiliated with the American Solar Energy Society, your student chapter must have five students with ASES memberships and be in communication with the SCC.

## STUDENT CHAPTERS AND PROFESSIONAL CHAPTERS

Professional members are a resource for students. ASES has Full Chapters in nearly every state. Once your chapter is approved, the SCC will connect you with a local professional chapter. It is recommended to meet with a member from the Full Chapter

once a semester, or year, depending on the chapter. Joint events may also be beneficial. These include community outreach, workshops, speaker sessions, conferences, and more.

## **SCHOOLS**

#### UNIVERSITIES

The short-term goal for ASES is to have at least one university student chapter in every state. Student chapters must fulfill the original guidelines, including having at least five students who are members of ASES. University student chapters can be based on projects, community outreach, workshops, events such as speaker series, and more. In the future, it would be ideal to have student chapters work with not only their local professional chapter but also their local student chapters.

## **COMMUNITY COLLEGES**

The short-term goal for ASES is to have at least one community college student chapter in every state. Student chapters must fulfill the original guidelines, including having at least five students who are members of ASES. Community college student chapters can be based on projects, community outreach, workshops, events such as speaker series, and more.

## HIGH SCHOOLS

High school is a time for young minds to explore potential career paths. Having student chapters at high schools would allow students to better understand the renewable energy field, gain hands-on experience early in their professional journeys, and network with university and community college student chapters. The short-term goal for ASES is to have at least one high school student chapter in every state. Student chapters must fulfill the original guidelines, including having at least five students who are members of ASES. High school student chapters can be based on projects, community outreach, workshops, events such as speaker series, and more.

# STARTING A STUDENT CHAPTER

# **GUIDELINES**

ASES provides a guide for the application to be affiliated with the national organization.

1. Select the name of your student chapter: The name of your Student Chapter may be personalized, but must include the name of your educational institution,

followed by "Student Chapter of the American Solar Energy Society, Inc." Examples: "The Colorado Technical College Solar Energy Association, a Student Chapter of the American Solar Energy Society, Inc."; "The University of Pennsylvania Student Chapter of the American Solar Energy Society, Inc."

- 2. Prepare a petition containing signatures of at least five students who are ASES members enrolled at your educational institution: Make sure that all members are current in their dues or include a few extra petitioners.
- 3. Obtain a Faculty Advisor: This person must be willing to serve a term of three years. The Faculty Advisor must be a member in good standing of ASES. His/her name, address, telephone number, and signature must be provided in the application. ASES will provide a Membership to faculty advisors at no cost.
- 4. Obtain approval for your organization to become an ASES student chapter from your educational institution: Your application must include proof of approval from your educational institution. A letter signed by proper authorities, such as an office of student life or other school governing body, is an example of the type of proof required.
- 5. Prepare your Student Chapter By-Laws: Suggested by-laws are provided. You may modify these by-laws, but the following articles are required: Article I; Article II; Section 2; Article III, Section 3; Article IV (with the exception that reference to ex-officio membership in the Executive Committee can be omitted if you will not be forming such a committee), and Article IX.
- 6. Prepare a spreadsheet of your group's officers with names, addresses, telephone numbers and emails.
- 7. Send a letter requesting affiliation along with your application: This letter should be signed by your Faculty Advisor.

# **BENEFITS OF CHAPTER MEMBERSHIP**

- Chapter's link on the ASES website
- Chapter's major events posted in Solar@Work biweekly eNewsletter
- Chapter listed in every issue of the award-winning Solar Today Magazine
- Chapter Caucus representation at the National Solar Conference
- Chapter Caucus representative discount on National Solar Conference registration fee
- Participation in the monthly Chapter Leaders' phone call with information sharing on best practices. Chapter mentorship available.
- ASES student chapter logo on Chapter website and materials
- Opportunity to share content via Solar Today and ASES social media posts

- Opportunity to list events in event listing on ASES bi-weekly e-newsletter, Solar@Work
- Upon request, complimentary *Solar Today* magazines for distribution at Chapter events (3 weeks advance notice required.)
- Access to ASES Technical Divisions

#### REQUIREMENTS

The following are the requirements for a student chapter to maintain active status:

- Have a minimum of five students with ASES memberships at all times
  - Please keep in mind that ASES does offer digital memberships, which are cheaper. The chapter can raise funds to maintain these memberships in order to be active, or the chapter can collect dues from members.
- Participate in monthly calls with the SCC
- Email correspondence with the SCC
- Write up semester reports after each semester (2 per year)
- Attend the annual chapter caucus at the National Solar Conference, or attend the chapter call during the caucus
- Provide a link on the chapter's website to the ASES website (ases.org)

## STARTING UP

Different schools have different requirements to be a student organization on campus. Here is a basic guideline:

- 1. Obtain permission to start the organization.
- 2. Gather interest. Some ways to do this:
  - a. Broadcast with the Career Center on campus, the Office of Student Life, or other campus-wide outlets.
  - b. Reach out to professors and ask them to let their students know in classes.
  - c. Have a table on campus, with flyers, to advertise and entice students
- 3. Establish officers. The number of officers is up for discussion. Delegation and work load may be easier and lightened with more officers, but it is essential to ensure that everyone is doing their job.
- 4. Have general meetings. During the school semester, start with monthly meetings to gauge interest.

#### **SOCIAL MEDIA**

In this day and age, social media is one of our most powerful tools. For your student

chapter, please create a Facebook Page, Instagram account, and website at the minimum. You are welcome to create other social media accounts, such as Twitter. It may be ideal to delegate this to a Public Relations officer (please see below in the Officers section).

# Facebook and Instagram

Most students are on Facebook and Instagram. Please regularly post using the chapter's Facebook Page and create events on Facebook for the public to see. This is a great way to promote your chapter and allow students to see what you are up to. It may be ideal to post some articles once a week to allow this to be a learning platform.

On Instagram, please post regularly about your group's activities or do member spotlights once a week.

#### Website

Please create a website up to date with the following information at the minimum:

- Information about your organization
- Officers
- Links to your social media
- Ongoing events, such as projects and workshops

Websites can be created for free on WordPress or Wix.

## **OFFICERS**

A strong organization begins with a strong leadership team. A typical executive board consists of a president, vice president, treasurer, and secretary. As organizations grow and expand their activities, the number of officers may grow with the organization's workload.

#### **EXPECTATIONS FOR OFFICERS**

Officers must attend all officer meetings, general meetings, and other mandatory events such as officer retreats. If an officer needs to miss a meeting (excused absences include: class, work, internship, family emergencies, other case-by-case situations), email the President 24 hours in advance with the reason and if any business needs to be discussed at the respective meeting. The President will then determine if the absence is excused or unexcused according to the guidelines above. Three or more

unexcused absences may result in officer termination. Officers are required to stay in communication via Facebook Messenger, phone, email, and/or in person. As part of the Solar Energy Association's executive board, communication is the most essential aspect. Regardless of whether or not an absence is excused, please inform fellow officers as a matter of respect and accountability. Officers are also encouraged to actively participate in tabling when applicable. Officers should always be looking for opportunities to improve the organization, such as different events going on around campus. For example, if you see an event geared towards projects, see if you and your members can participate in that event.

#### **GOOGLE DRIVE**

Your student chapter should consider using Google Drive as a place to store everything, including agendas, sign-up sheets, etc. This should be shared with the SCC. Please actively use this resource so everyone stays on the same page.

## **OFFICER TRANSITIONS**

Officer transitions are essential to a successful organization, which is why an entire day should be dedicated to transitions. Officer transitions should take place promptly after elections. Please reference the "Leadership Transition Guide."

This document includes:

- Letter to the incoming executive board from the outgoing president
- Expectations for officers, including mandatory events, meetings, how to use school websites and systems, how to access documents, etc.
- Roles for each officer
- Recommendations such as how to be a good officer, leadership, and helpful tips

After the transition, the newly elected president will run the next officer meeting and the newly elected executive board will run the last general meeting of the spring semester, with the help of the outgoing executive board.

#### **ELECTIONS**

In a typical semester schedule,, elections occur in the spring, around April. Transitions should be completed before May. Election schedules can be adjusted for different academic schedules

Here are some suggestions on how to run elections:

- 1. At a general meeting
  - a. During a general meeting, members who are interested in running for a position shall give a 1-2-minute persuasive speech for the position they

are running for.. These speeches should be done in order of position if possible (i.e. everyone who would like to be president, then vice president, and so on). Members shall vote by ballot as the nominees step out of the room. The outgoing president and another officer who is not running for office shall count the votes and announce the new executive board after counting. At least two thirds of the entire chapter should be present during elections.

# 2. Via Google Form – application style

- a. The executive board should come up with a Google Form that members can fill out to apply, with questions such as "what position do you want" and "why do you think you are qualified for this position"
- b. The form should be left open for about a week. The executive board will then get together and read all the submissions. If there is a conflict of interest, those people must step out of the room. If an outgoing board member is applying for a new board position, that person must step out of the room. The executive board shall decide who is the best fit for each position. The new board will be announced once the executive board has made the decision.

## ROLES

## **PRESIDENT**

The President shall preside at regular meetings of the Chapter, at Executive Committee meetings, and shall also serve as ex-officio member of any other Chapter committees. The President must prepare all general meeting and officer meeting agendas and oversee all officers.

## OVERSEEING THE EXECUTIVE BOARD

One of the biggest presidential roles is overseeing officers. A good way to do this is to ask for updates at officer meetings from each officer. If an officer seems like he/she is having some trouble or not giving proper updates as you would like, try reaching out to them. Always check in with your officers. Remember to be personable! Delegating is very important. Often,more officer positions are better because they allow for more delegation and for more people to be involved in the organization. For example, a president at another school told me their organization had over twenty positions and their membership increased tenfold.

## **AGENDAS**

Agendas should be made for every officer and general meeting. Please upload these to the drive about 24 hours before the actual meeting. This will help officers know what to expect.

#### RETREATS

Leadership retreats are for team building! It is so important to have a strong executive board in order to have a strong organization. If officers are comfortable with each other, it will be easier to work during good and bad times. For example, if someone is doing something wrong, it'll be easier to tell them if you have a positive relationship.

Here is the breakdown of an example retreat in Yosemite National Park:

Officers carpooled and drove to Yosemite National Park for a day hike. After the hike, the following leadership activities occurred:

- 1. Introductions: name, major, year, favorite part of your organization's past semester, fun fact
- 2. Things I need to improve on, things I do well: each person has 1 minute to talk about things they do well and things they want to improve on
- 3. "My vision of a team that works well is..." and list off answers
- 4. 5 people stand in a circle, facing out with eyes closed, 4 people in the middle eyes open
  - (or half the executive board), 1 speaker speaker: "tap an officer who has inspired you...
  - tap an officer you want to get to know better"
- 5. M&M game! (bring m&m's, small fun-sized bags) Tell us... red: something about yesterday, yellow: something about your childhood, blue: something you learned last week, brown: something you can't live without, green: something you watch/listen to, orange: something you want to improve on
- 6. Each officer has a paper with their name on it. Pass the paper around and write one (or more) positive characteristics about the person whose name is at the top of the paper
- 7. Notecard: Write three fun facts about yourself but don't write your name. People guess who it is!
- 8. Leadership values: Questions such as "what does honesty mean to you" (add at least one more example, such as: "How can leaders best communicate with their team," "what makes good teamwork," "how can we establish accountability," etc)

#### **ADVISORS**

Advisors are resources. Try to meet with advisors at least once a month, or send them monthly (or more!) update emails. At the beginning of each semester, let them know which meetings you would like them to attend, if any. It is very beneficial to have advisors present, for both the board and the members!

#### SCHEDULING

Scheduling is always tricky. First, make sure all officers can attend all officer meetings and general meetings. The easiest way to do this is to look at everyone's class schedule, which they typically get at the end of the previous semester (i.e. for fall, you can start planning at the end of spring). Please do this as soon as possible so rooms can be reserved.

# **BOOKING ROOMS**

After deciding when you want meetings to be, ask the Secretary to reserve rooms on campus. If rooms are unavailable, use the next-best option, such as a spot in the campus library, an officer's house, or virtual meetings.

## BUDGET

Please work with the Treasurer to create an estimated budget for the year, factoring in project costs and other costs that may arise. This should be completed during the first couple weeks of the fall semester.

#### MEMBERSHIP

Retaining members is one of the biggest struggles in many organizations. Please constantly think of ways to retain and gain members. Perhaps tabling more frequently will help with recruiting members.

## **CONFERENCES**

We want our members to benefit professionally, regardless of whether your organization is project-based or community-based or community-based. Conferences are the perfect way to do so. The American Solar Energy Society hosts an annual solar conference annually that we hope to be able to send students to. Representing your organization is a valuable aspect of conference attendance. Furthermore, look for different conferences that we can send members to – different members at different conferences is ideal. Officers do not need to always go to conferences or be the only people who attend

them. At conferences, we want our members to remain engaged and learn. In order to do this, please come up with a way for members to stay at the sessions. Conference attendees should present learnings at the following general meeting.

### OFFICE OF STUDENT LIFE

We should strive to maintain good relationships with any type of office of student life on campus. Please keep your events and roster up to date if that is something they would like. When you have questions, don't hesitate to stop by their office.

## **TABLING**

Your student chapter always needs positive Public Relations! Days when prospective students or incoming students come to visit campus are great recruitment opportunities. Tabling during the year is also essential to gaining publicity and members. It is important for your table to be, with some demonstrations going on, in order to attract people.

#### OTHER ORGANIZATIONS' EVENTS

Your student chapter should be involved in other organizations' events and maintain good relationships with other organizations. If you participate in their events, there is a higher chance of those organizations participating in your events.

#### AMERICAN SOLAR ENERGY SOCIETY

As the president, you are expected to meet monthly with the SCC, with either your vice president or your entire executive board. You are also required to send a semester report after every semester. The easiest way to do that is to type up a brief summary of your events every month and compile them for the semester report. If you have any questions regarding your organization or ASES, do not be afraid to reach out to the SCC.

## MISCELLANEOUS

As the president of your ASES Student Chapter, you are serving the executive board and the members of your chapter. Please keep in mind that you want to have the approval of and input from each officer, and that everything you do is in the best interest of your members.

## VICE PRESIDENT

The Vice President shall assist the President and assume the duties of the President in his/her absence.

#### RETREAT

Retreats should occur at least once a year. Please work with the President to plan this event. Some people enjoy going to the mountains, or some outdoor excursion, while other people may choose to have the retreat at someone's house. Remember that this is a chance for officers to bond and improve their leadership skills.

#### **BYLAWS**

Student Chapters should adopt bylaws. You can request a bylaws template from your SCC. Amendments to the bylaws may be proposed by any member during the semester to any officer and are taken into account at the end of every semester. At the beginning of the new semester, bylaw amendments must be presented and voted on. A two-thirds affirmative vote of members present at that particular general meeting is required to pass the proposed amendments. Even if there are no proposals by members, please review the bylaws at least yearly.

#### TREASURER

The Treasurer is in charge of the student chapter funds and shall make all required financial reports. and The Treasurer also oversees the chapter's expenditures as they are authorized by the chapter.

#### BUDGET

Please work with the President to create an estimated budget for the year, factoring in project costs and other costs that may arise. This should be completed during the first couple weeks of the fall semester.

## **CHAPTER DUES**

Chapter dues are up to the chapter. Some chapters do not charge a thing, while others can charge anywhere from \$10 to \$50. Keep in mind that chapter dues will go back to the student. Chapter dues will go towards projects, apparel, food, etc. One thing to consider is that the ASES Student membership is \$35 for the regular membership and \$20 for the digital membership. (The only difference in the digital membership is that the magazine is digital instead of mailed to you.) If your chapter charges \$50 for chapter

dues, \$20 could go toward the ASES Student membership and \$30 could go toward the chapter. These dues could be annually or per semester – this is also up to the chapter. As Treasurer, it is your responsibility to keep track of dues.

#### SOURCES OF FUNDING

Every school is different in regards to funding for student organizations. Typically, the student government should have some funding that students can apply for. At some schools, there are councils who are a part of the student government that focus on giving money to students for events, such as speaker sessions, workshops, etc. Please find sources of funding year-round, as projects and other events are not cheap.

## **SECRETARY**

The Secretary shall maintain minutes of the meetings of the Student Chapter and shall be custodian of all its records not specifically assigned to others. He/she shall also keep a full and correct list of the members and their information.

#### **MINUTES**

The President should have uploaded meeting agendas on Google Drive. On the same document, take detailed notes at all officer and general meetings. If you are unable to attend a meeting, please reach out to another officer and ask him/her to fill in for that day.

#### **BOOKING ROOMS**

When the President figures out dates for meetings, please book rooms via your school system. This also includes project meetings and any other meetings or events that may arise.

# OTHER POTENTIAL ROLES

## PROJECT MANAGER

The Project Manager shall oversee and develop solar-related projects. He/she shall have project lead(s) to help carry out projects. Projects shall be actively worked on and ongoing semester to semester.

The Project Manager shall oversee all projects. Each project will have a project lead and those project leads will report to you. To ensure progress, please ask project leads to update you frequently, either weekly or biweekly. If necessary, meet with each project

lead biweekly or monthly. If your project leads do not have the technical background to move forward with these projects, that is alright – please feel free to reach out to your faculty advisors for advice. If a project is not showing progress, reach out to the project lead and inquire why. If the response is insufficient, consider finding a new project lead. If you are a project-based organization, projects are the core of your organization and are very beneficial to your members, which is why it is essential to keep them going.

#### OUTREACH DIRECTOR

The Outreach Director shall be in charge of all events that are not projects, including but not limited to information sessions regarding solar energy careers and solar energy as a whole. The goal is to educate members and the community. At least one event shall be hosted per year.

Community outreach is important to ASES. Work on reaching out to high schools and engaging younger students in green technology.

Speaker sessions are another way to reach out both to schools and the surrounding community. Bring different speakers to campus – not only professors, but also local companies, businesses, and more. Ask them to talk about green energy, energy careers, etc. We are not limited to solar energy! Try to bring in speakers that could help with your projects if you are project-based. These events can be open to the public, which would also be good PR for your organization. Work with the Treasurer to secure funding for these events (people love free food!). If you can get a couple speakers going for a semester, you can call the speaker series something like "Sunny Speakers" and make it a weekly/biweekly/monthly event. Tours of facilities or different companies are also very beneficial to our members.

## WORKSHOP DIRECTOR

The Workshop Director shall be in charge of all events that are not projects, including but not limited to: workshops (i.e. solar panel workshops), solar related events, etc. At least one event shall be hosted per year.

There are many small workshops out there that students can engage in, such as an Altoid box solar charger! Please find workshops that are financially feasible. This is a great way to engage your members and potentially gain more members.

## PUBLIC RELATIONS DIRECTOR

The Public Relations Director shall be in charge of all social media including but not

limited to: Facebook, Instagram, and Twitter. He/she shall keep social media updated, make flyers for events, conduct outreach, work on increasing membership, and maintain a good reputation for the organization.

You will have access to all the social media accounts: Instagram, Facebook, Twitter, WordPress, etc. Please keep all your social media accounts up-to-date and looking nice! On Instagram, Facebook, and Twitter, please try to do member spotlights about once a week.Post a picture of a member with a short description. On Facebook and Twitter, please post/share/retweet articles revolving around solar energy, so our social media accounts provide a learning experience as well.Please do this about once a week. Lastly, notify people when you have your events, such as general meetings. Make use of Canva/Illustrator for flyers. Ideally, flyers should be made for most events so you can post them everywhere.

#### **FUNDRAISING DIRECTOR**

The Fundraising Director shall be in charge of all fundraisers, and works hand-in-hand with the Treasurer. Money from fundraisers can go to materials needed for events, workshops, and/or funds for members' dues. At least one fundraiser shall be hosted per semester. More fundraisers are encouraged.

Fundraisers are the way you can make much of your money! This could cut down on chapter dues, which may make some students more inclined to join. A couple businesses in your area may allow your organization to host fundraisers with them. Please reach out to businesses like Panda Express, Panera Bread, Chipotle, etc. One of the most profitable restaurants is Chipotle, as they allow you to keep xx% of proceeds from sales. Other fundraisers can be on campus, such as a shirt fundraiser (we get shirts for a certain price, ex. \$6, and sell them for a higher price, ex. \$10). Please be on a search for fundraisers. Ideally, your chapter should aim for at least one fundraiser per full month of school, which usually equates to two or three per semester.

#### CONFERENCE DIRECTOR

The Conference Director shall be in charge of all conferences, including planning your organization's 's annual conference and finding different conferences members could attend.

Conferences are amazing networking and learning events. They often entail technical sessions, workshops, and networking opportunities. These events push students out of their comfort zones, which allows them to grow.

#### **EVENTS AND CONFERENCES**

As a student chapter, you have the power to host a conference revolving around solar energy or green energy, to broaden the conference. Motivations to plan a conference include the potential to educate the community, both near and far, and to engage and attract members.

Motivation to plan a conference:

- Educate the community nearby and far
- Engage and attract members

If your student chapter is interested in hosting a conference, please read the "Conference Planning Guide."

#### **WORKSHOPS**

Workshops are extremely helpful to members and potential members. These activities allow members to gain hands-on experience on a smaller scale.

Here are some possible workshops:

- Ballerina battery
- Altoid box solar charger
- Tic tac torch
- Solar fan
- Solar cooking
- Professional workshops
- Resume builders
- Interviews

# **SPEAKER SERIES**

A good way to keep the community engaged is starting a speaker series. Speakers can be from anywhere – academia or industry. To do this, start by asking professors who are in the green energy field. Then, incorporate local, small companies. Ask them to give talks, ranging from about 30 minutes to an hour long, with time for questions. Try to provide food and drinks. If this event is open to the public, it may be easier to get funding from the school for the event. Speakers can be monthly, biweekly, or weekly, depending on the number of speakers you have lined up.

# **OUTREACH**

It is essential to work with the community. This may be in the form of going out to high schools to give presentations on solar energy, showing them how a solar cooker works, or even introducing them to the idea of college. This could also be working on a project with high school students. A fun event is Junior Solar Sprints! This would be your members working with students to build a solar car, and then racing them.