

IEEE Educational Activities Board

Volunteer Manual

Prepared by EAB Section Education Outreach Committee

IEEE Educational Activities

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VERSION CONTROL

Version Number	Version Date	Release Date	Summary of revisions made
2018.01	December 2018	December 2018	First version

SUMMARY

The Educational Activities Board (EAB) is one of the major boards of the IEEE. It recommends policies on educational matters and implements programs specifically intended to serve the educational pursuits of IEEE members, the engineering and scientific communities, and the general public.

This manual is intended to assist IEEE volunteers who drive Educational Activities in their respective Regions, Sections and Chapters, and contains information about:

- EAB's programs and activities;
- Recommended role and responsibilities for Regional and Section Education Activities Chairs;
- Specific contact points within EAB.

This following table provides a summary of the items covered in this manual.

EAB Programs
Student and Academic Education Programs
•These programs cover Pre-University, University and Accreditation activities and aim to increase the understanding of Engineering, Computing, and Technology (ECT) among the pre-university constituencies and promote/advocate university education activities.
Continuing and Professional Education Programs
•These programs identify and serve the educational needs of working professionals by being the resource of choice for quality educational products and services.
EA Awards
•EA Awards recognize excellence and outstanding educational contributions of individuals and organizations through awards that are aligned with EAB's educational vision and mission.
Volunteer Roles
Regional Education Activities Chair (REAC)
•REACs are appointed by Regions to drive educational activities and provide support to SEACs and other educational volunteers in their Region.
Section Education Activities Chair (SEAC)
•SEACs are appointed by Sections to drive educational activities and provide support to educational activities volunteers in their Section.

IEEE EDUCATIONAL ACTIVITIES BOARD

MISSION

The IEEE Educational Activities Board (EAB) shall recommend to the Board of Directors policies on educational matters and implement programs specifically intended to serve and benefit IEEE members in educational pursuits, the engineering and scientific community, and the general public.

These programs shall include:

- The broad planning of IEEE educational activities;
- The development and delivery of continuing education products and activities;
- The development of guidelines for accreditation bodies;
- The monitoring of accreditation activities;
- The coordination of pre-university programs;
- The recognition of individuals and companies for major contributions to engineering and technical education through the EAB Awards program;
- The representation of the IEEE in matters regarding engineering education;

And, the EAB shall be the IEEE interface in education-related matters with external bodies.

VISION

- To become a major resource of choice for learners, educators, and education policy makers in all educational matters within IEEE's fields of interest.
- To be the voice of professionals in IEEE's fields of interest on education policy; accreditation; curriculum development; pre-university science, mathematics, engineering and technology education; and continuing education.

EDUCATIONAL ACTIVITIES (EA) PROGRAMS

This section provides a list of all active EA programs available for our volunteers, members and the general public.

Main Category	Sub-Category	Program
Student and Academic Education Programs	Pre-University Education Programs	Teacher In-Service Program (TISP)
		TryEngineering.org
		TryEngineering Together
		TryEngineering Summer Institute, Powered by IEEE
		Presidents' Scholarship
	University Education Programs	ABET Accreditation Activities
		EPICS (Engineering Projects in Community Service) in IEEE
		IEEE Faculty Professional Development
		IEEE Academic
	IEEE-Eta Kappa Nu (IEEE-HKN)	The Bridge
		Student Leadership Conference
		Founder's Day
Continuing and Professional Education Programs	Continuing and Professional Education Programs	IEEE eLearning Library
		IEEE Learning Network
		IEEE Certificate Program
		IEEE Standards University
EA Awards	EA Awards	EAB Awards
		HKN Awards

Table 1 - EA Programs

EAB PROGRAMS

STUDENT AND ACADEMIC EDUCATION PROGRAMS

Pre-University Education Programs (<https://www.ieee.org/education/preuniversity/index.html>)

Programs provide resources, curricula and pedagogical practices for pre-university educators, creating technological awareness and inspiring young people to select engineering as a career path.

Audience

Primarily serving pre-university educators;
secondarily serving counselors, parents
and students

Components

- Engineering in the Classroom
- Online Resources
- Social & Humanitarian Innovation

Teacher In-Service Program (TISP)

The Teacher In-Service Program (TISP) is a “Train the Trainer” program that trains IEEE members on how to facilitate in-service programs for local teachers to help them introduce hands-on engineering lessons to their students. These lesson-plans are aligned with education standards and can easily be used in the classroom.

TryEngineering.org (<http://tryengineering.org/>)



TryEngineering.org provides online information on engineering careers with interactive activities intended for parents, teachers, school counselors, pre-university students. These resources are free and available to the public. TryEngineering.org also offers visitors access to lesson plans, online games, accredited university programs in over 75 countries and information about engineering careers.

Portals for TryComputing.org, TryNano.org, and Accreditation.org provide similar services. All portals are accessible from their name or from the TryEngineering.org site.

TryEngineering Together (<http://tryengineeringtogether.com>)

A unique EAB eMentoring program developed by IEEE with Cricket Media pairing a company with a sponsored 3rd-5th grade classroom. TryEngineering Together provides a classroom in an under-resourced area with volunteer employee eMentors from the partnering company along with a compelling virtual platform and exciting STEM content designed to help spark student interest in pursuing STEM careers. This program is currently available in US only.



TryEngineering Summer Institute, Powered by IEEE



TryEngineering Summer Institute was created to introduce rising 8th–12th grade students to the exciting fields of engineering and technology. The immersive two-week overnight program is designed to provide students an engineering foundation; learning to think like engineers and understanding how a career in engineering can make a difference in the world. These experiences can help students develop STEM skills, build confidence, and unlock their potential for future academic and career paths in engineering. This program is currently available in US only.

Presidents' Scholarship

(<https://www.ieee.org/education/preuniversity/scholarship.html>)

IEEE Presidents' Scholarship recognizes a deserving student for an outstanding project that demonstrates an understanding of electrical and electronics engineering, computer science, or other IEEE technical fields-of-interest.



The scholarship includes \$10,000 payable over four years of undergraduate study, an engraved plaque and complimentary IEEE student membership.

University Education Programs (<https://www.ieee.org/education/university-programs.html>)

Programs promote and enhance the content and delivery of engineering, computing and technology (ECT) education globally.

Audience

Primarily serving university educators, students and ECT dept. heads; secondarily serving administrators

Components

- Engineering Education Accreditation
- Faculty Resources
- Educational Curriculum
- Student Academic Resources

ABET Accreditation Activities



ABET is a nonprofit, non-governmental organization that accredits college and university programs in applied and natural science, computing, engineering and engineering technology. IEEE is the largest partner with ABET.

Working within ABET, IEEE EA oversees the accreditation of more than 800 engineering, computing and technology programs in IEEE's fields.

EPICS (Engineering Projects in Community Service) in IEEE

(<https://epics.ieee.org>)

EPICS in IEEE empowers students to work with local service organizations to apply technical knowledge to implement solutions for a community's unique challenges. EPICS in IEEE not only assists communities in achieving their specific local community improvement goals but also encourages students to pursue engineering for community improvement as a career.





IEEE Faculty Professional Development

The program provides webinars and other virtual events through which individuals can reach their professional development targets around developing career plans, teaching techniques, conducting research, and many other topics taught by recognized experts in the field.

IEEE Academic (<https://academic.ieee.org>)

IEEE Academic is a student-driven, multilingual and locally developed online educational resource that aids students in their academic learning in their own language and helps them achieve academic success.



IEEE-Eta Kappa Nu (IEEE-HKN) (<https://hkn.ieee.org/>)

IEEE-HKN is the honor society of IEEE. It promotes excellence in the profession and in education with ideals of scholarship, character and attitude.

Audience

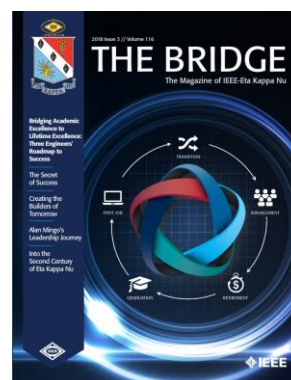
Primarily serving university students;
secondarily serving alumni members

Components

- Student Leadership Development
- Mentoring and Tutoring
- Community Service
- Chapter Development

The Bridge Magazine (<https://hkn.ieee.org/media/the-bridge/>)

Published since 1910, **THE BRIDGE** is the flagship publication of IEEE-HKN. Published 3 times a year, this award-winning magazine is the primary communication channel of IEEE-HKN.



Student Leadership Conference (SLC) (<https://hkn.ieee.org/get-involved/student-leadership-conference/>)

This conference brings together IEEE-HKN students from around the world for training and networking in a leadership program designed to help them develop skills to become a “complete engineer”.

Founder's Day (<https://hkn.ieee.org/founders-day-4/>)

Each year on 28 October, the anniversary of the establishment of the first chapter, we celebrate Founders Day. Chapters around the world have activities, contests, competitions and fun to promote the mission of IEEE-HKN.



CONTINUING AND PROFESSIONAL EDUCATION PROGRAMS

(<https://www.ieee.org/education/continuing-education.html>)

The primary aim of these activities is to identify and serve the educational needs of working professionals by being the resource of choice for quality educational products and services

IEEE eLearning Library (<https://ieeexplore.ieee.org/courses/home>)



IEEE eLearning Library is an online digital library of multi-course programs and individual tutorials. There are hundreds of hours of continuing professional education in current and emerging technologies and professional skills, developed with the world's leading experts in their fields including collaborations with many IEEE societies.

Some of the course program topics include English for Engineering, autonomous vehicle, modernizing the smart grid and blockchain, to name a few. Presently, IEEE eLearning Library is accessed on IEEE Xplore. Successfully completing IEEE courses can provide the student access to either Continuing Education Units (CEUs) or Professional Development Hours (PDHs).

IEEE Learning Network (Coming June 2019)

The IEEE Learning Network (ILN) is an upcoming program which will offer a single online portal for continuing education products from all organizational units and societies across IEEE.

Educational content available on this portal is planned in areas like 5G, Autonomous Vehicles, AI & Ethics in Design, to name a few. ILN will offer the following features:

- Learners will have ability to access courses from any device, anytime, anywhere in the world;
- Learners will have the ability to pick up courses where they leave off;



- Track, manage and report on learner behavior over time.

IEEE Certificate Program

(<https://www.ieee.org/education/certificates/index.html>)



IEEE Educational Activities is an authorized provider of Continuing Education Units (CEUs) and Professional Development Hours (PDHs) through the IEEE Certificates Program. Certificates are issued for qualified educational programs for both IEEE event coordinators and external education training providers. IEEE Certificate Program provides a service for organizers and providers of educational events not for individuals seeking to purchase single certificates.

IEEE Standards University (<https://www.standardsuniversity.org/>)

IEEE Standards University is a joint project between EAB and the Standards Association. This site offers educational resources on standards, their applications, and their impact on designing new products, processes, and services. You can access an e-magazine, video games, workshops and other resources.



IEEE-EAB AWARDS (<https://www.ieee.org/education/awards/index.html>)

IEEE Educational Activities Board (EAB) Awards recognize and honor major contributions to engineering and technical education. Award nominations and scholarship applications are accepted beginning **1 January** each year. The annual deadline is the first Monday after **30 April**.

Awards are given for meritorious activities in accreditation, continuing education, educational innovation, pre-university education, service to the IEEE EAB, employee professional development, informal education systems and related achievements that advance the practice of engineering and of engineering education. The current IEEE EAB Awards are:

- Meritorious Achievement Award in Accreditation Activities
- Meritorious Achievement Award in Continuing Education
- Major Education Innovation Award
- Meritorious Achievement Award in Pre-University Education
- Meritorious Achievement Award in Outreach and Informal Education
- Meritorious Service Citation
- Employer Professional Development Award
- Section Professional Development Award
- Society/Council Professional Development Award
- Vice President's Recognition Award
- EA/SA Standards Education Award

In addition, IEEE Educational Activities Board (EAB) administers scholarship awards that recognize graduate students for work in electrical engineering. The current IEEE EAB Scholarship Awards are:

- IEEE Life Members Graduate Study Fellowship in Electrical Engineering
- The Charles LeGeyt Fortescue Graduate Scholarship

IEEE-Eta Kappa Nu (IEEE-HKN) awards honor excellence in engineering by recognizing the leaders of today and tomorrow. Members consist of students, alumni, and other

professionals who have demonstrated exceptional academic and professional accomplishments. The current IEEE-HKN Awards are:

- Holmes MacDonald Outstanding Teaching Award (CHM/OTA)
- Vladimir Karapetoff Outstanding Technical Achievement Award (VK/OTAA)
- Outstanding Young Professional Award (OYPA)
- Outstanding Chapter Activities Award (OSAA)
- Outstanding Student Award (OSA)
- Distinguished Service Award (DSA)
- Eminent Member Recognition (EMR)

Details of these awards, including eligibility criteria, are available at the following link:

<https://www.ieee.org/education/awards/index.html>

VOLUNTEER ROLES

This section provides:

- Details of IEEE volunteer roles which are responsible for Educational Activities in IEEE Regions and Sections throughout the world;
- Recommended responsibilities and guidelines for individuals performing these roles.

All individuals performing these roles are recommended to undergo the online training prepared by the IEEE Center for Leadership Excellence (CLE) (<https://ieee-elearning.org/>).

REGIONAL EDUCATIONAL ACTIVITIES CHAIR (REAC)

Objectives

The role of the Region Educational Activities Chair (REAC) covers the coordination of educational activities programs including pre-university education, university-level education, continuing education and the promotion of public awareness of engineering, technology and other topics within IEEE's Field of Interest in their Region.

Recommended Responsibilities and Guidelines

Responsibilities

- Keep up to date about Educational Activities Board programs and announcements through the IEEE Educational Activities website and through their membership of the IEEE EAB Section Education Outreach Committee (SEOC).
- Publicize educational opportunities and programs to the Region organizational units, Section Educational Activities Chairs (SEACs) and the general membership.
- Promote educational activities at the member level and communicate to the Educational Activities Board (EAB) the educational concerns of the membership.
- With the approval of the Region Executive Committee, plan and execute training programs to address the technical and professional development of the membership.
- Promote EAB and HKN awards (<http://www.ieee.org/eab-awards>).
- Serve as a voting member of IEEE EAB Section Outreach Committee (SEOC).

Guidelines

- Continuously request IEEE Section Chairs in your Region to establish a volunteer position, Educational Activities Committee/Chairperson within the Section.
- Communicate with IEEE Section Educational Activities Chairs in your Region to identify needs and programs. Assist them as required in establishing educational programs within their sections, possibly in co-operation with affinity groups and technical chapters.
- Assist sections with educational issues and activities at a national/section level and establish better contacts with National Societies promoting educational activities.

SECTION EDUCATIONAL ACTIVITIES CHAIR (SEOC)

Objectives

The role of the Section Educational Activities Chair (SEAC) covers the coordination of educational activities programs including pre-university education, university-level education, continuing education and the promotion of public awareness of engineering, technology and other topics within IEEE's Field of Interest in the Section.

It should be noted that not all Sections currently have SEAC. If your Section does not, these may be duties split between the other members of the Section Executive body, until a SEAC is designated. It is recommended that all Sections have a SEAC.

Recommended Responsibilities and Guidelines

Responsibilities

- Keep up to date about Educational Activities Board programs and announcements through the IEEE Educational Activities website and through communication with the Region Education Outreach Committee (REAC).
- Publicize educational opportunities and programs to the general membership and public.
- Promote educational activities at the member level and communicate the educational concerns of the membership to the REAC and Section.
- With the approval of the Section Executive Committee, plan and execute training programs to address the technical and professional development of the membership.
- Promote EAB and HKN awards (<http://www.ieee.org/eab-awards>).
- Serve as a voting member of the Section.
- Represent the Section at IEEE gatherings, particularly relating to educational activities.
- Upon request, represent the Section at Regional Committee Meetings and vote on education activities related issues on the basis of the best interest of IEEE.

Guidelines

- If you plan to have a committee, identify members willing to volunteer. Members with relevant experience are valuable.
- Set up a convenient time to meet your team and determine goals for the year.
- Attend Section Executive Committee (ExCom) meetings regularly. Use your committee agenda and the minutes/reports from your committee members as basis for your report to the Section.
- Provide a regular report to the Section Executive Committee about status of educational activities programs in the Section and in the geographic area.
- Communicate with neighboring IEEE Section Educational Activities Committee Chairs in your Region to identify joint needs and programs.
- Assist sections with educational issues and activities at a national/section level and establishing better contacts with National Societies in educational activities.
- Pass on to successor all relevant records of office at the end of term.
- Share your successes and communicate with other IEEE volunteers around the world.
- Once educational activities and events are held within the local section, the SEAC ensures that these activities be documented with an L31 report.
- Always recognize your local volunteers at an annual awards event. You'll be surprised at how a small gesture of recognition goes a long way to re-energize and invigorate those that may seem to be getting burned out after numerous years of service. Recognition is key to retaining your volunteers for continued service to the community.

CONTACT INFORMATION AND RELEVANT LINKS

We hope that this EAB Volunteer Manual takes much of the worry out of doing the things that you love. Volunteer work is supposed to be passion-driven and fun-to-do, so we hope this manual took most of the difficult planning off your plate. Once your Section has implemented many of the programs described in this manual, please share photos and your results to our Section Education Outreach Committee via the following platforms. You can also contact us with suggestions, comments and queries via the following platforms as well.

Website: <https://www.ieee.org/education>

Email: askeducation@ieee.org

Facebook: <https://www.facebook.com/IEEEeducation/>

Twitter: @IEEEeducation