



2022 AAEE Engineering Education Grants

Introduction

The AAEE Engineering Education Grants nomination instructions provide information for nominees and their home institutions. The information covers the selection criteria, and the nomination and selection processes. The Grants encourage excellence in scholarly practice and/or research specific to **Engineering Education** in higher education or equivalent by supporting teams who possess the desired mix of demonstratable expertise and skills and/or are emerging leaders in the field to:

1. identify engineering educational issues across the higher education system and to facilitate approaches to address these issues
2. devise and undertake a programme of activities that will have positive impact on engineering students, staff, and/or institutions
3. raise the profile of engineering education in higher education and the prestige associated with the pursuit of scholarly excellence and/or research
4. show leadership in promoting and enhancing engineering education in higher education and exploring new possibilities
5. establish and build on national and international partnerships in engineering education in higher education or equivalent
6. foster national collaboration and collegial networking for sharing research, innovation and good practice in engineering education
7. contribute to the growing community of engineering education scholars in higher education or equivalent

Grant Program Support

The Grants aim to support **up to three (3) projects** through provision of funding to, for example:

- allow limited time release from normal academic duties
- undertake a range of scholarly, research, and dissemination activities
- cover attendance at designated events associated with the project, including presenting at the AAEE Annual Conference or other networking events

The nature of project activities

The AAEE will seek to select projects that have identified an educational issue of relevance across the engineering education sector specific to the recommendations of [ACED's ENGINEERING FUTURES 2035: A scoping study](#) (Crosthwaite, 2019), either within an engineering discipline or across disciplines, and designed a programme of activities with the capacity to draw collaborative expertise from other institutions, and create significant impact and influence in realising the desired outcomes as outlined in the scoping study.

The ACED scoping study explores the knowledge, skills and attributes of professional engineers required to meet anticipated changes to engineering work in Australia by the year 2035. It explores potential approaches to engineering education that prepares graduates and makes recommendations for further detailed investigation. **Up to two (2) projects will be funded to address the outcomes of the ACED scoping study to a maximum of \$20,000 per project.**

AAEE is also keen to support project(s) that are aligned to [Australian Collaborative Education Network Limited \(ACEN\)](#). ACEN is the professional association for practitioners and researchers from

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the tertiary education sector, industry, community and government representatives, involved in work integrated learning (WIL) in Australia. ACEN provides strategic leadership for work-integrated learning research, scholarship and practice in Australia, for its members and other stakeholders. **Up to one (1) project aligned with the priorities of ACEN will be funded to a maximum of \$10,000.**

Project activities should be designed to draw upon and build the team members' particular areas of expertise. While all projects should address the aims of the Grants, the specific activities suited to a project will depend upon the identified issue from the [ACED scoping study](#) or priorities from [ACEN Research Grants](#), and upon the team's teaching, disciplinary and/or emerging leadership background. This grant scheme is designed for **early or mid-career engineering educators** to undertake a scholarly or research project that will have significant and broad impact to the engineering education sector (established researchers/senior academics could be involved in, for example, an advisory role).

The response to the selection criteria should include the academic record, professional standing and/or leadership capabilities of the team nominee in relation to engineering education. The significance of the engineering education issue to be addressed by the proposed project is an important consideration, as is the originality and viability of the activities and the likely breadth and depth of impact of the outcomes. **To be successful, nominees must have strong statements of support and/or in-kind support from their home institution(s). The grant will not fund institutional overheads.**

Grant Funding Objectives

The objective of the funding aims to devise and undertake project activities that have a positive impact on learning and teaching in their home institution in the discipline of engineering, and preferably leveraged across multiple institutions. To fulfil this objective, the nominee will:

1. identify an engineering education issue, within or across the discipline, and facilitate an approach to addressing the issue
2. show leadership in promoting and enhancing engineering education in higher education or equivalent, within and beyond their home institution
3. establish and build on national partnerships in engineering education across institutions
4. foster networks and dissemination of project outcomes with the AAEE community and wider engineering education communities

The funding will normally support project activities **over a period of six to twelve months**. The project can provide for part-time release from academic activities for the funded period. Outside this funded period, the nominee will undertake project activities with the support of their home institution(s). The nominee should actively contribute to the AAEE community of scholars during the project period.

Eligibility

Individuals who are members of AAEE and employed by an eligible higher education institution or equivalent in Australia and New Zealand may nominate for an AAEE Engineering Education Grant with the support of their home institution(s). Only one (1) nomination form from one (1) institution is required for multi-institutional nominations, however **ALL institutions' letter of support** must be attached to the nomination.

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Individuals will normally be **early or mid-career academics** engaged in scholarly practice and/or engineering education research in higher education or equivalent in Australia and New Zealand. Applicants will have some demonstrated expertise and scholarship in a field of relevance to the proposed project activities.

Selection Criteria

The following four criteria will be applied in the selection of AAEE Engineering Education Grant project(s). The selection criteria are:

1. Capacity of the nominee to play an emerging role in scholarly and/or research activities relating to engineering education;

Which will be judged by such factors as the nominee's: positive influence upon the engineering education community, within or across disciplines; and a record of achievements as an educator in higher education or equivalent, including an ability to influence students positively and to influence and inspire colleagues; at a level achievable for an early or mid-career academic.

2. Alignment of the proposed project activities and outcomes with the aims of the Grants

Which will be judged by such factors as: the significance of the engineering educational issues to be addressed by the proposed project activities; the overall impact and influence of the proposed project on learning and teaching across higher education (or equivalent) institutions; the originality and viability of the project activities and the proposed methodology for achieving the planned outputs and impact; and the overall value and scalability of the project proposal for the amount of funding sought.

Prospective nominees are advised to consult sources such as AAEE conference proceedings and Australasian Journal for Engineering Education, and specifically, refer to 2019 [ACED's Scoping Study Engineering Futures 2035](#), or [ACEN Research Grants](#) and [ACEN Projects](#) in preparing their project proposal.

3. Endorsement and support of the nominee by their respective home institution(s)

Which will be judged by such factors as: the likely impact and plans for ensuring sustainability of the change created as a result of the project; and the relevance of the nominee(s)' expertise and skills to the proposed activities.

The selection process

Nominations are assessed on the basis of the documentary information provided, including: the written statement and proposal prepared by the nominee; the statement of institutional support; the nominee's curriculum vitae; and references.

This assessment is carried out by a panel nominated by the AAEE Executive Committee. The panel reviews all nominations and assessments. The final selection of project rests with the AAEE Executive Committee. Decisions will be made based on recommendations made by the panel. The AAEE Executive Committee reserves the right not to award any projects.

Successful nominee(s) is expected to be notified and announced by September 2022, and the successful projects expected to start from 2nd January 2023 at the latest, if not earlier.

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Project activities, outputs and impact

Nominees are required to describe the activities they plan to undertake during the project period and to identify the expected outputs, timeline and impact. In preparing their proposal, nominees need to clearly align planned activities with the overall aims and objectives of the Grant. Nominees are strongly encouraged to develop original ideas and strategies for their project activities.

The specific activities included will depend upon the identified issue, however, links between proposed activities, outputs and impact should be clear. Building an institutional and national profile for the project should form part of the overall strategy. Strategies for ensuring that the outcomes are embedded and sustained should also be described.

A strategy for impact

Broad impact and influence are the corner stones of a successful project. It is therefore important to project and plan for impact as part of the design and development of the proposal. AAEE expects a systematic approach to be taken to achieving impact and encourages the use of the Impact Management Planning and Evaluation Ladder (IMPEL). Information about impact and IMPEL is available in Appendix A.

An important way to achieve impact is through effective dissemination and engagement with project activities. Such approaches may involve strategic engagement with relevant groups within institutions and outside the engineering education sector, and the creation of opportunities to promote their project activities and to explain their goals and outcomes. A dissemination strategy should be included in the project proposal.

Developing leadership in engineering education

It is expected that successful nominee(s) use their project activities as the basis for developing their professional profile within their institutions, and beyond, and for advancing excellence in engineering education.

Evaluation of the project

Successful nominee(s) are required to evaluate their projects – this encompasses the activities, outputs, outcomes and impact. An evaluation strategy should be included in the project proposal.

Grant funding

Nominees are required to submit a fully itemised budget and justification for the funds being requested. The funds provided to successful nominees will be administered by their home institution(s). **A maximum of \$20,000 cash funding is available for each of two grants aligned with the 2019 ACED Scoping Study. A maximum of \$10,000 cash funding is available for the grant aligned with the ACEN Research Grants.** AAEE acknowledge the support provided by Australian Council of Engineering Deans (ACED) who has contributed \$20,000 in support for the 2022 AAEE Engineering Education Grant.

Stipend for the nominee(s)

The grant funding can be used as a stipend commensurate with the successful nominee's salary plus on-costs (up to 28 per cent) at their home institution. Funding is not available for additional salary



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loadings individuals may receive from their home institution, nor general institutional or departmental overheads.

Presenting project outcomes at the AAEE Annual Conference

Funding can be used for conference registration fee(s), economy class flights or accommodation. Nominees are advised to include this as a single budget item of up to \$1,000 per nominee(s).

Evaluation expenses

Any expenses associated with evaluation of the fellowship's activities and outcomes should be included in the budget.

Project Reporting

Successful nominee(s) will provide two reports to the AAEE Executive Committee:

- An interim, or progress, report due halfway through the project period, which articulates progress made against the plan of activities and intended outputs, and including a statement of expenditure of funds. This is intended to be no more than one page.
- A final report that profiles the outputs and impacts of the project, highlighting the impact the project has had and can have in the future, and describing how others (scholars, students, institutions, and profession as relevant) can make use of what has been delivered and achieved. The report will also briefly document how the project was undertaken, including activities.
- A financial acquittal of all expenditure associated with the project is submitted with the final report.

The final report and financial acquittal must be submitted to the AAEE Executive Committee **within three months** of completing the project. The successful nominee(s) will provide the AAEE Executive Committee with a complete set of any publications and materials produced, electronically and in an appropriate format.

NOMINATION INSTRUCTIONS

All nominations for a Grant must include the following parts and documentation, presented in this order and labelled, Parts A to G, as appropriate.

A. Nomination cover pages

The nomination cover page should include the nominee's contact details, and an abstract of the proposed project (max. 150 words). The abstract must clearly state what will be delivered by the project, i.e. output/s. Abstracts must be in plain English and avoid the use of jargon. The completed nomination must be signed by the head of department or relevant organisational unit.

To be completed using the pro forma provided in the nomination form (see below).

B. Institutional statement of support (1 page maximum from each institution)

The statement from the home institution should endorse the nomination, with specific reference to the selection criteria 3. In addition, the statement should detail the direct and indirect support that the institution will provide during the project. Similar statements of support are required from all

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participating institutions if the proposed activities include extensive involvement with institutions other than the nominee's institution. This statement should be provided and signed by appropriate financial delegate.

C. Written statement from nominees (1 pages maximum)

A written statement addressing selection criteria 1 and 2.

The nominees should include a description of previous and current activities and roles that demonstrate a record of emerging leadership and influence in engineering education, and highlight the potential leadership and innovative or creative aspects of the proposal. The nominees should include a description of their record and emerging capacity for influencing scholarly and/or research activities in engineering education.

D. Description of proposed project rationale, activities, outputs and impact (5 pages maximum)

The description must include: a discussion of the issue to be addressed; rationale and readiness for the project; a plan of activities to address this issue; an approach to identifying and involving other scholars in engineering education; the strategy for profile-building and dissemination; the intended outputs from the project, including a strategy for embedding these outputs and achieving impact (the IMPEL Framework may be used, refer Appendix A); an outline of the evaluation; and a detailed timeline of activities and milestones, including an explanation of any significant concurrent academic activities for the period of the project (that may impact on the project) .

The nomination form prompts for a brief project objective statement, project deliverables (outputs and resources produced), within a table or as a list, and a timeline of activities and milestones, within a table or as a list. These are elements of the description and discussion.

E. Budget and justification

Each nomination must include an itemised budget that provides a detailed costing for all components of the project expenditure. The budget should justify proposed expenditure in relation to the project activities and outputs. Amounts should be exclusive of GST.

The budget should be based on the table presented in the pro forma provided.

The funding may not be used for:

- building works, purchase of motor vehicles, general recurrent funding, and travel which is not directly related to achieving the outcomes of the project
- purchase of assets unless in exceptional circumstances (this restriction would normally include computers, small digital devices etc. which should be provided by the institution as a contribution)

F. Curriculum vitae (1 page maximum per nominee)

Nominee(s) should also include their curriculum vitae with all relevant career achievements, particularly those emphasising the scholarship and emerging leadership they have shown in advancing engineering education in their area of expertise.

G. References



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Nominee(s) are required to attach written references from two (2) scholars recognised for their contribution to engineering education in higher education and/or in a relevant field or discipline. The references should support the proposed project activities and the capacity and capability of the nominee to conduct these successfully within the specified timeframe, in order to achieve the planned impact. Nominees should not act as referee for other nominees. All references must be signed by the referee; references that include an electronic signature are acceptable.

Lodgement and processing

One PDF document including parts A to G, clearly labelled with the name of the corresponding nominee and the institution (e.g. John Smith ANU), must be submitted.

The documentation should be prepared in A4 layout using Calibri or Arial in no less than 11 point type. A narrow font should not be used. The left margin should be at least 2.5 cm deep.

The PDF should be emailed to aaee@engineersaustralia.org.au by 5 pm (Australian Eastern Standard Time) on Monday, 1st August 2022.

Any inquiries can be addressed to Steven.Goh@usq.edu.au or Anne.Gardner@uts.edu.au

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APPENDIX A: PROJECT IMPACT PLANNING

The Impact Management Planning and Evaluation Ladder (IMPEL)

The IMPEL model provides a framework for describing different types of change that can be achieved through educational development activities. Each stage, or ladder rung, is incrementally broader in impact than the last. These rungs are:

1. Changes for project team members
2. Changes by project team members leading to changes for students who are directly influenced
3. Contributions to knowledge in the field; growth or spread of disseminated ideas; serendipitous adoption/adaptation by people beyond the project's intended reach
4. Changes by opportunistic adopters at participating institutions leading to changes for students who are directly influenced
5. Systemic changes at participating institutions leading to changes for all relevant students
6. Changes by opportunistic adopters beyond participating institutions leading to changes for students who are directly influenced
7. Systemic changes beyond participating institutions leading to changes for all relevant students.

The model offers both a prompt for project teams in the planning, execution and reflection stages of educational development projects, as well as a cogent frame for funding agencies to enunciate expectations, make funding decisions and evaluate the efficacy of funding in facilitating strategic educational change.

Impact Template for Projects

Impact is the difference that a project makes in its sphere of influence, both during and after the funding period. Maximising impact requires forecasting and planning. The questions and matrix (Hinton, 2012) provide a structure to prompt active and ongoing consideration and re-evaluation of impact and how it may be maximised given the evolution of the project. Maintaining updated responses to the template is not intended to be a reporting requirement, rather a strategic steering tool for the project. AAEE Executive Committee will be interested in discussing evolving projections of impact at key points during the project, including at progress and final reporting points, and expect realistic impact assessment in line with the funding provided. The template is accessible via the link below.

The full version of the IMPEL model, developed by Tilly Hinton is online at;

https://intranet.ecu.edu.au/_data/assets/pdf_file/0008/777977/IMPEL-Designing-for-impact-Resources-and-information.pdf



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2022 AAEE Engineering Education Grant Nomination Form

Part A: Nomination Cover Pages

Corresponding Nominee's details

Title	
First name	
Last name	
Position	
School/Faculty	
Institution	
Institution's postal address	
Email address	
Mobile telephone number	

Project details

Project title	
Abstract of proposed Project (max. 160 words)	
Educational issue(s) to be addressed (use key words)	
ACED or ACEN Aligned	



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Team Nominee 2 details (if applicable)

Title	
First name	
Last name	
Position	
School/Faculty	
Institution	
Institution's postal address	
Email address	
Mobile telephone number	

Team Nominee 3 details (if applicable)

Title	
First name	
Last name	
Position	
School/Faculty	
Institution	
Institution's postal address	
Email address	
Mobile telephone number	



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Team Nominee 4 details (if applicable)

Title	
First name	
Last name	
Position	
School/Faculty	
Institution	
Institution's postal address	
Email address	
Mobile telephone number	

Part B. Institutional statement of support (1 page maximum from each institution)

Part C. Written statement from nominees (1 pages maximum)

Part D: Project description and rationale

(5 pages maximum, including the following objective statement and tables/ lists for planned deliverables and a timeline as part of discussion.)

Project Objective:

(A short statement of up to 60 words.

For example*This project will lead change in engineering education by ...* [summary of the action to be undertaken and who with] ... *to ...* [describe the change or impact to be achieved] ... *for engineering education and students.*)

Project Deliverables, table or list:

(Elements of the description and discussion. A set of tangible outputs and resources produced by the project, and that are also indicative of project's impact and outcomes.) Address how



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resources created during the project will be made available to other members of AAEE (eg through the [AAEE wiki](#)).

Timeline, table or list

(A detailed timeline of activities and milestones. Activities should be indicative of the tasks and work to be undertaken in the project. Milestones should be notable points through which progress towards the deliverables may be assessed.)

Part E: Budget

The budget must be itemised, detailing all components of the project expenditure.

The total budget, exclusive of GST, should not exceed \$10,000 for an ACEN aligned project or \$20,000 for an ACED aligned project.

<i>Budget item</i>	<i>Amount</i>
Nominee(s)' Stipend	
Project activities support	
Travel expenses for AAEE Conference (up to \$1,000 each nominee)	
Evaluation expenses (if applicable)	
Other Please provide details as separate line items	
TOTAL BUDGET (exclusive of GST)	



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Budget justification

(1 page maximum)

Part F: Curriculum vitae (1 page maximum for each nominee)

Part G: Two Referees (1 page maximum for each referee)

Nominee's declaration

I nominate for the 2022 AAEE Engineering Education Grant and agree to its conditions.

Signature	Date
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Head of Department's / Organisation unit's support for nomination and authorisation

I support this nomination on the basis of the attached documentation. I undertake to support this nominee in the activities associated with the project in accordance with the attached statement of institutional support (Part B). I confirm that the information above is true and correct and that the nominee named on this form is currently a staff member of this institution.

Title/Name	
Position	
Faculty/Unit	
Signature	Date