**SUPPLEMENT I: LETTERS OF COMMITMENT**

<table>
<thead>
<tr>
<th>NO.</th>
<th>NAME</th>
<th>PURPOSE</th>
</tr>
</thead>
</table>
| 1.  | Dr. Teik C. Lim, Dean, College of Engineering & Applied Science (CEAS) University of Cincinnati, Cincinnati, OH | a. College endorsement and commitment to sustain program elements and key staff positions beyond the NSF funding, once processes are established and demonstrated.  
b. Support for using freshman ENED 1020: Engineering Foundations to create the experientially learning research opportunity and MS-ACCEND Program awareness through the CBL Choice Research Projects in ENED 1020 executed by the students.  
c. Institutionalizing the research curriculum developed for MS-ACCEND students in the grant through the Department of Engineering Education (DEE) in CEAS.  
d. Classifying MS-ACCEND students as graduate students in Senior Year (5th year at UC).  
e. University Graduate Scholarship (UGS) for MS-ACCEND students in senior year.  
f. Consider MS-ACCEND students for the CEAS Rindsberg Scholarships if they decide to pursue PhD in CEAS at UC. |
| 2.  | Dr. Gisela Meyer Escoe, Vice Provost for Undergraduate Affairs, University of Cincinnati, Cincinnati, OH | a. University endorsement and commitment.  
b. Making programs and support systems available at UC to sustain some of the proposed programs beyond NSF funding. |
| 3.  | Dr. Cory Christopher, Director of UC Forward and the Office of Undergraduate Research, Scholarly Endeavors, & Creative Practice (URSC), University of Cincinnati, Cincinnati, OH and Dr. Cheri Westmoreland, Executive Director, Inclusion and Retention (McNair/STARS Scholars Program), University of Cincinnati, Cincinnati, OH | a. Commitment to offer the (i) “Ready For Research Workshop & Participation in UC Undergraduate Research, and (ii) Research Preparation with McNair/STARS Peer RECON Mentor for the execution of the proposed Freshmen IUSE Scholars Program (FISP) for UR (Women + URM) students.  
b. Provide mentorship support to UR MS-ACCEND Students. |
| 4.  | Dr. Cheryll A. Dunn, Associate Professor Emerita, Director of Minority Programs and Community Outreach, College of Engineering and Applied Science, University of Cincinnati, Cincinnati, OH | a. Commitment of Emerging Ethnic Engineering (E³) Program’s to participate in the execution of the proposed Freshmen IUSE Scholars Program (FISP) for UR (Women + URM) students.  
b. Assist the project team to hold the Summer Bridge Parents-Students Meeting after the Summer Scholars Bridge Program Graduation Luncheon, as part of its recruitment program for URM students.  
c. Make available the E³’s K-12 Outreach portfolio of programs for the proposed MS-ACCEND Community Engagement Program.  
d. Provide mentorship support to URM MS-ACCEND Students as part of the E³ Program. |
| 5.  | Mr. Kenneth Simonson, Director, Academics, Emerging Ethnic Engineers Program, College of Engineering and Applied Science, University of Cincinnati, Cincinnati, OH | a. Commitment of making available the programs implemented at UC for as part of The Ohio LSAMP Alliance for the URM MS-ACCEND students.  
b. Make available the research-focused monthly socials organized as part of The Ohio LSAMP Alliance to the UR students selected for the Freshmen IUSE Scholars Program (FISP).  
c. With assistance from the IUSE Project Team, |
<table>
<thead>
<tr>
<th>NO.</th>
<th>NAME</th>
<th>PURPOSE</th>
</tr>
</thead>
</table>
|     |      | organize a monthly social which includes an experiential learning hands-on research activity that showcases the primary learning outcomes of the MS-ACCEND Program.  
d. Support the recruitment plan for the URM Students participating in the Ohio LSAMP Alliance’s UC-Cincinnati State Technical and Community College 2+3 transfer Program |
| 6.  | Dr. Lauren Bosselait, Associate Director, First Year Experience & Learning Communities (FYE&LC), University of Cincinnati, OH | a. Include awareness about MS-ACCEND Program’s goals, objectives, execution details, and expectations from participants as part of the training program for the LC Peer Leaders to ensure uniformity of message conveyed about across all sections of the CEAS FYE&LC’s. |
| 7.  | Dr. Bryan R. Smith, Director, Center for the Enhancement of Teaching & Learning (CET&L), University of Cincinnati, OH | a. CET&L endorsement and commitment.  
b. Make CET&L Professional Development sessions and workshops available to the MS-ACCEND Scholars desiring to pursue a Ph.D. Assist the IUSE Project Team to select the two required sessions and workshops each cohort must complete. |
| 8.  | Ms. Kristen MacArthur, President, UC Women Society for Engineers (SWE), University of Cincinnati, OH | a. CET&L endorsement and commitment to promote MS-ACCEND through its activities.  
b. Hold a MS-ACCEND Meeting panel discussion session with three professional women graduate engineers |
| 9.  | Dr. Margaret M. Hanson, Associate Dean, and Professor, Physics, McMican College of Arts & Sciences, University of Cincinnati, OH | a. Hold the Mentee Training Workshop in UG Research I course.  
b. Hold the Mentor-Mentee Workshop in UG Research II course. |
January 5, 2016

Dr. Myles G. Boylan
Lead Program Director, IUSE Program
Division of Undergraduate Education
Directorate for Education & Human Resources
The National Science Foundation
Arlington, VA

Ref.: Letter of support of the NSF proposal “ACCEND: A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs”

Dear Dr. Boylan,

As Dean of the College of Engineering and Applied Science (CEAS) at the University of Cincinnati, I strongly endorse the NSF proposal entitled “ACCEND: A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs.” On behalf of the College, I am very supportive of the proposed program and in particular the efforts to strengthen and improve our MS-ACCEND program. The ACCEND programs continue to be a significant factor in the CEAS’s efforts to meet the goals of the University of Cincinnati Academic Master Plan. In particular, these programs encourage academic excellence, create additional academic opportunity for students, and provide a mechanism to increase enrollment, particularly enrollment of domestic students in graduate programs.

I have discussed with the project team the plan to prepare the participating undergraduate students to be “ready for research” through a series of sophomore to junior year research courses that will prepare the MS-ACCEND track students for their MS-Thesis taken during the senior year. The College is committed to offer these courses through our Department of Engineering Education (DEE). The undergraduate research courses and the associated training programs developed for the mentees, mentors and project team will enhance student perseverance to continue their education and on-time graduation with both the B.S. and M.S. degrees in engineering. We believe the interventions proposed will help to improve the experience for women and URM students and therefore lead to greater diversity in our graduate programs.

Additionally the College endorses using all sections of the existing Engineering Foundations course taken by all CEAS freshman to inform students about the benefits and opportunities associated with graduate education. The MS-ACCEND Scholars will be selected based on interest, commitment and academic performance demonstrated by the end of the freshman year.

In the proposed project, we expect that the MS-ACCEND Scholars will be prepared to be classified as graduate students in the university system after completion of 7 academic terms. This will qualify these students to receive a University Graduate Scholarship (UGS) to partially cover their tuition during their final year of study. The students will also qualify for a University Graduate Assistantship (UGA) from an externally funded research grant, if a faculty member administering this grant selects to support an MS-ACCEND Scholar. Students deciding to pursue their Ph.D. degree in an engineering discipline in CEAS at UC will be encouraged to apply for the Rindsberg Fellowships. The College supports 3 to 5 Rindsberg Scholars at $30,000 per year.

Sincerely yours,

[Signature]

[Name]
[Title]
[Institution]
The College of Engineering and Applied Science highly values the work of all faculty members as they engage in activities that connect the College with the community and the broader educational system. The proposed research study, “ACCEND: A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs,” is situated in an environment that is eager to advance engineering education through new initiatives; poised to use the personnel, infrastructure, approaches, programs, and products developed, in particular, for the Department of Engineering Education as it develops its own Ph.D. degree program, and additionally across all disciplines in CEAS in the proposed IUSE project.

I am looking forward to the results of the advising, mentoring, tracking, research training and professional development activities for the MS-ACCEND students. The College is in complete support of this project and if funded will support key programs proposed and assist the project team to develop plans to institutionalize resulting programs so that they can be sustained and extended over time so that students continue to benefit long after the grant work is complete.

Sincerely,

Teik C. Lim, PhD, PE
Dean, College of Engineering and Applied Science
Herman Schneider Professor of Mechanical Engineering
November 23, 2015

Dr. Myles G. Boylan  
Lead Program Director, IUSE Program  
Division of Undergraduate Education  
Directorate for Education & Human Resources  
The National Science Foundation  
Arlington, VA

Dear Dr. Boylan,

As University of Cincinnati’s Vice Provost for Undergraduate Affairs, I am writing to confirm my strong support for UC’s application, “ACCEND (ACCelerated ENgineering Degree): A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs.” This proposal is fully consistent with our priorities, vision, and capabilities as the University of Cincinnati is committed to realizing the unique opportunities that are present when a research university makes a strong commitment to undergraduate teaching and learning. Indeed the university has allocated new resources that are directly relevant to this effort through our strategic planning process, UC 2019:

- A new office of UG Research, Scholarly Endeavors and Creative Practice (URSC) was opened in 2012. This office which is advised by a faculty council provides an undergraduate peer mentoring program to prepare students for research placements. In 2013 it hosted an undergraduate conference which celebrated the accomplishments of 830 students from every undergraduate UC college, representing 59 programs and 208 faculty mentors. It is also the home of workshop series, and an UG student lecture series in partnership with UC Libraries.

- A new office for innovation collaboratives, UC Forward, made grants to 83 faculty members working in 25 teams to offer interdisciplinary problem-based courses. The first 13 courses had 81 external partners/stakeholders. The UC Forward faculty network now has over 220 members who are now affiliated with this effort and who are teaching 151 new UC Forward courses.

- Undergraduate Incubator awards are sponsored by the Office of Research and support student work in the areas of translational research, commercialization, and innovation.

- UC continues to support well established REU programs such as the WISE Program which funds annually 20 women undergraduate engineering and science students for summer research and other student research opportunities such as the Honors Program.
undergraduate research program and UG research awards made annually by the Office of Research.

Each of these initiatives is directly relevant to this proposal and will provide excellent opportunity for students and faculty who are part of the MS-ACCEND program proposed in this NSF IUSE proposal.

Finally, I note that this proposal also aligns well with the state’s priorities. In particular, Ohio has made a long-term commitment to increase the number of Ohio undergraduate students with STEM degrees through its Choose Ohio First Program (COFSP). The University of Cincinnati has been extremely successful in obtaining program grants such as “Diversifying Yield and Retention in Engineering, Mathematics and Science” (COFSP-08-02) for $4,268,000 (2009-2013), with $375,000 for two additional years (2013-2015) of support, and the recent addition of one more year (2015-2016) of support for $125,050. The Ohio Board of Regents has indicated that it intends to continue such awards into the future and is preparing a new RFP for 2016-2017. Dr. Kukreti, the PI for this current proposal, was also a primary author of the university’s successful COFSP grant described above and he has remained very active in assuring the appropriate administration of this program for engineering students. He has allocated COFSP awards to fund the scholarships of students selected for his NSF STEP grant (# 0756921), “Enhancing Recruitment of Women and Minority Engineering Undergraduates.” As a result of coordinating these resources we were able to extend the NSF STEP project to also include two cohorts of Gen One engineering students. The new COFSP proposal UC will be submitting, if granted, would provide additional scholarship support for the NSF IUSE scholars.

In conclusion, UC is well positioned to deliver on this grant and the PI of this effort is especially well suited and supported to make the proposed NSF S-STEM program a success and provide avenues to sustain it at UC beyond the funding requested. Again, this application has my full support.

Thank you for your consideration,

Gisela Meyer Escoe, Ph.D.
Vice Provost for Undergraduate Affairs
University of Cincinnati
November 23, 2015

Dr. Myles G. Boylan  
Lead Program Director, IUSE Program  
Division of Undergraduate Education  
Directorate for Education & Human Resources  
The National Science Foundation  
Arlington, VA

Dear Dr. Boylan,

This letter is written in support of the NSF IUSE proposal, “ACCEND (ACCELERATED ENGINEERING DEGREE): A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs,” by Dr. Anant Kukreti from College of Engineering and Applied Science and other colleagues.

Support for this work will be provided by two existing and fully funded university programs, the Office of Undergraduate Research, Scholarly Endeavors, & Creative Practice (URSC) and the McNair Scholars Programs.

URSC is a centralized university office based in the Division of Professional Practice & Experiential Learning (ProPEL) that supports students from all university colleges who wish to pursue undergraduate research experiences. This support includes the “Ready-for-Research” introductory workshops as well as the RECON (Research, Education, & Creative Opportunities Network) peer mentor program; please see below for specific information. URSC also coordinates the annual URSC conference, at which nearly 1000 undergraduates present research findings and other scholarly or creative works. As a centralized office, URSC functions as a central hub for undergraduate research, and contributes to the coordination of different discipline-focused programs across the university. As a unit program within ProPEL, URSC has the support of 2 graduate students and coordinator staff.

The Division of Student Affairs: Inclusion and Retention Unit, at the University of Cincinnati, houses the McNair Scholars Program a federally funded initiative and the STARS Program (Student Achievement in Research and Scholarship) designed to provide comprehensive support services and undergraduate research experiences geared towards assisting underrepresented, low-income and first generation college students interested in graduate education at the doctoral level. The McNair/STARS Scholars program is supported by a director and 2 full-time staff.

Specifically, URSC and the McNair/STARS Scholars Program will be glad to support the proposed IUSE project through its following two programs offered annually, which are designed to provide research exposure and awareness to the underrepresented (minorities and women) freshman selected for the IUSE project:
1. **“Ready For Research” Workshop & Participation in UC Undergraduate Research Conference**: In the fall semester the student will participate in a 3-hour URSC workshop that certifies students as “ready for research.” This workshop provides students with a basic understanding of the culture of undergraduate research, including its importance to the university and student achievement. The students, after training from UCRC staff, will serve as volunteer assistants at the annual UC-Undergraduate Research Conference held in April each year. This will provide an opportunity for these students to see the research performed by their peer undergraduate students across all disciplines at UC and interact with them. They will also get an opportunity to network with UC faculty who come to view and/or serve as judges for the event; some of them could support their undergraduate research endeavors as a student at UC.

2. **Research Preparation with McNair/STARS Peer RECON Mentor**: After completing the research workshop, the students will be paired with a McNair RECON (Research, Education and Creative Opportunities Network) peer mentor. The students will meet with their mentor at least four times during the freshman year, and in each meeting, they will be given a specific task to complete. These tasks include getting research-specific certifications (if necessary, and depending on the discipline) that includes a reference-supported background that places the student’s interest(s) into an academic and actionable context, completing a draft CV, and shadowing a graduate student and/or faculty member.

These programs have been executed at UC for the last 3 years and annually about 150 undergraduate students participate in them either as mentors or mentees. For the last two years, each year 5 to 6 S-STEM Freshman Scholars who are part of the Emerging Ethnic Engineering’s Bridge Program and Dr. Kukreti’s ongoing NSF S-STEM grant, have participated in the program. Last year’s S-STEM Freshman Scholars rated the McNair Peer RECON Mentor as the most beneficial program for them.

In summary, UC’s Office of UCRC and McNair Scholars Program is well positioned to deliver on this grant, as outlined above. The proposed collaboration is built on prior tested program offered for Dr. Kukreti’s NSF S-STEM Program. This application has our full support.

Sincerely,

Dr. Cory Christopher  
Director of UC Forward and URSC

Dr. Cheri Westmoreland  
Executive Director, Inclusion and Retention  
(McNair/STARS Scholars Program)
November 20, 2015

Dr. Myles G. Boylan
Lead Program Director, IUSE Program
Division of Undergraduate Education
Directorate for Education & Human Resources
The National Science Foundation
Arlington, VA

RE: IUSE Proposal for “ACCEND (ACCelerated ENgineering Degree): A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs”

Dear Dr. Myles Boylan:

This letter serves as my commitment to support the recruitment of ethnic minority students for the NSF IUSE Grant Proposal, “ACCEND (ACCelerated ENgineering Degree): A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs,” submitted by Dr. Anant Kukreti and his colleagues from University of Cincinnati.

As the current Director of Minority Programs and Community Outreach; I work to ensure that we have students prepared to enter and graduate from the College of Engineering and Applied Science (CEAS). The Emerging Ethnic Engineers (E3) has a strong history of retaining and graduating minority students. Not all students participate in this program for financial and other reasons. I know that if we could get more students to have the E3 experience we would have more students prepared and ready to enter the workforce or prepared to enter graduate programs in engineering and technology. We will welcome any of the students selected for Dr. Kukreti’s IUSE MS-ACCEND project to join the E3 program and be a home for them. With partnerships from local school districts, E3 program has developed a structured K-12 outreach portfolio of programs, including, tutoring, after-school programs, mentoring student teams for math, science and robotics competitions, holding ACT/SAT review classes, and assisting in completing college applications. These will be made available to the MS-ACCEND scholars for Community Engagement activity.

The Summer Bridge Scholars Program has several components that have led to students achieving high academic success. The program is offered to 25-30 students admitted to engineering and technology programs in the college. Those students spend seven weeks on campus prior to the start of their freshman year. During the summer they take courses that are required during their first year. Placement is based on testing and their selected major. Students are provided textbooks—the same books used in the courses that are taken in the fall semester. Students are also required to participate in the ALEKS program. A program that ensures that students have the foundation in math needed to succeed in Calculus. The Bridge courses, ALEKS, and the collaborative learning environment ensure their success in the first Calculus class they complete in their freshman year.

Students who complete the Bridge Program, based on their ALEKS progress and their UC Math Placement Scores, are advised to start in Calc 0 or Calc I. Students are also required to enroll in the Supplemental Cooperative Learning Courses for Calculus (Calc 0, I, II) and Physics (Phys 0, I) during the fall and spring semesters of the freshman year along with the other required courses for their major. The supplemental courses meet twice a week for 2 hours in addition to the regular Calculus or Physics course
which is part of the curriculum. Students work in 4-6 member heterogeneous groups providing a comfortable environment to ask questions and learn. These supplemental courses help further strengthen the learning community built in the Summer Bridge Scholars Program.

The success of the program can be measured by the success of the participants – the 2014 participants – 72% earned a 3.00 GPA or higher and 52% earned a 3.5 GPA or higher. Overall, Bridge students have a higher retention and graduation rate than all other students in the College of Engineering and Applied Science.

The E³ program supports the Bridge and other ethnic minority students in CEAS. I have worked with students over the past 5 years in the E³ program, who have benefited from another NSF grant, STEP Program. This grant provided funding for our Summer Bridge Scholars Program and to establish a program that included advising, mentoring, students meeting instructors and submitting course progress reports, attending thematic monthly socials with guest speakers, and performing 15 hours per academic semester of E³-approved community service. Student participation is tracked though an E-Portfolio that was established first time as part of the STEP program. This program has consistently produced students who have GPA’s and retention rates higher than the college average. That NSF STEP grant ended in May 2014 and the College and University are committed to providing the funding to ensure that the program continues. Since the STEP grant ended, the Bridge program has been offered, as before, in the summer of 2014 and 2015, and recruitment for 2016 has started. A major fund raising drive is currently underway to provide additional support for the Summer Bridge Scholars Program and its continuation in freshman year.

If students admitted to CEAS’s undergraduate programs have the opportunity to complete the freshman-year program, Freshman IUSE Scholars Program (FISP), and then get selected to participate in the MS-ACCEND program from sophomore to senior year, as stated in Dr. Kukreti’s proposal, our retention rate for these students would further increase. I know that this proposal has all the components to ensure that the retention and graduation rates of this population will increase, since it is based on proven strategies established, tested and refined in the STEP program. Some of these students will successfully advance to Ph.D. programs, which will be a big achievement since there is lack of representation of minorities in such programs in engineering. I would enjoy being part of a program that has the possibility to transform engineering education. In collaboration with Dr. Kukreti and his team's recruitment efforts, the E³ Program in CEAS will be able to provide the IUSE team with the most promising ethnic minority students for the FISP; those who have a high probability of continuing in the MS-ACCEND Program, graduating on-time, and entering the workforce or pursuing a Ph.D. E³ will make every effort to recruit an adequate number of ethnic minority students from the Summer Bridge Scholars Program and other E³ students so that the IUSE project proposed by Dr. Kukreti and his colleagues will be able to recruit 13-14 ethnic minority students during the grant period to meet their recruitment criteria.

Please feel free to contact me at the address above or email cheryll.dunn@uc.edu if I can answer and questions or provide additional information to support this IUSE Grant Proposal.

Sincerely,

Cheryll A. Dunn, Ed.D.
Assoc. Professor Emerita
Director of Minority Programs and Community Outreach
Dear Dr. Boylan:

As the Principal Director of the University of Cincinnati’s part of the NSF-funded grant, “The Ohio LSAMP Alliance” (Award #1304371, $2,799,632, September 15, 2013 – August 31, 2018), I commit to make available its programs for the aforementioned NSF IUSE proposal being submitted by the College of Engineering and Applied Science (CEAS), University of Cincinnati (UC) with Dr. Anant Kukreti as its Principal Investigator. Specific details of The Ohio LSAMP Alliance’s grant award are presented first below, followed by details of the collaborations between the UC’s part of The Ohio LSAMP Alliance and the proposed NSF IUSE grant.

The Ohio LSAMP Alliance is a new alliance among 7 institutions of higher education (The Ohio State University as the lead comprehensive research institution; the University of Cincinnati, Miami University, and Wright State University as the other comprehensive research institution partners; and Central State University, Cleveland State University, and Wilberforce University as the 4-year HBCU college partners), 4 community colleges (Cincinnati State Technical and Community College, Columbus State Community College, Cuyahoga Community College, and Sinclair Community College), community partners, and an Industry Advisory Board. The purpose of this alliance is to significantly increase underrepresented minority (URM) student recruitment, retention, persistence, and attainment of science, technology, engineering, and mathematics (STEM) degrees. The goal of the program is to double the number of underrepresented minority baccalaureate degrees in STEM disciplines at partner institutions within five years.

Following specific programs executed as part of The Ohio LSAMP Alliance at UC can be leveraged for recruiting URMs (about 1 to 3 students in each cohort) for the IUSE proposal submitted by Dr. Kukreti and his colleagues from CEAS:

1. As part of LSAMP grant, 3 to 4 monthly socials are organized each semester that allow students to interact with invited professionals and upperclassmen in an informal setting. Each monthly social revolves around a theme and speaker(s), for example, reducing stress during midterms and finals, time management, setting high expectations, undergraduate research, international experiences, community engagement, etc. The freshman URM CEAS students recruited and guided to apply for the IUSE MS-ACCEND program will have the opportunity to participate in these socials along with other LSAMP students. Specifically, we will provide an opportunity to the UC IUSE proposal team to organize a workshop as part of a monthly social which includes an experiential learning hands-on activity on “Engineering Research Challenge and its Transfer to the Real World,” followed by a “Discussion on: Considering Graduate Education - Why & How?”
2. As part of The Ohio LSAMP Alliance a 2+3 partnership exists through the Pathways Program between UC and Cincinnati State Technical and Community College (CSTCC). The proposed IUSE project is an excellent compliment to the current LSAMP program and provides an additional opportunity to recruit additional URM students that seamlessly transfer to UC with an associate degree from CSTCC. One of the “LSAMP Model Elements” Professionalization, which requires us to provide undergraduate research opportunities for LSAMP students; the IUSE project will build and enhance this current requirement. The program began in 2014-2015 academic year with 11 students, who participated in a research co-op assignment at the UC. Cincinnati State students are non-traditional: 60% attend part-time; 66% come from surrounding county (Hamilton County – same for UC); and 30% are African American. Cincinnati State has an open enrollment policy, which means that any high school graduate is eligible to attend. Many of these students graduate from high schools lacking instruction in math (e.g., Advanced Algebra, Trigonometry, Pre-Calculus) and science (Physics) needed for direct admission into an engineering undergraduate program, which is their goal. Cincinnati State’s associate degree graduates, who meet cumulative GPA and completion of entrance math and science course requirements for the degree program of choice, are granted admission into UC. It should be noted that the GPA requirement varies by degree program of choice. Considering the fact that greater than 30% of CSTCC students are domestic underrepresented ethnic minority (URM) students, who with proper academic preparation in fundamental math, science and English courses by participating in a structured 2+3 program between CSTCC and CEAS are able to get admission into engineering at UC. This program will be executed as follows to recruit the best CSTCC URMs into the IUSE MS-ACCEND program once they transfer to UC:

i. Academic Year 1 at CSTCC with a REU program for the students at UC.
ii. Summer after Year 1 – students participate in the E³ Summer Bridge Scholars Program at UC.
iii. Academic Year 2 at CSTCC and students take one course at UC (Research Methods) and we evaluate and identify viable candidates for the MS-ACCEND Program in CEAS at UC after transfer. Student will graduate with an associate degree from CSTCC.
iv. The viable candidates in Academic Year 3 will transfer to UC as a pre-junior and take Undergraduate Research I and the other courses required for the degree program they have been admitted into.
v. Academic Years 4 & 5 (and possibly an extra summer semester) at UC as a MS ACCEND track student.

In closing, I am very excited about the special programs included for minorities and women in the IUSE proposal being submitted by Dr. Kukreti. I have worked with Dr. Kukreti as a Co-PI on his NSF STEP grant (# 0756921) and a prior S-STEM grant (# 0630990), both targeted underrepresented engineering undergraduate student groups. Both grants have resulted in programs, which have been successfully institutionalized in CEAS at UC. I am sure the same will be the result of the proposed IUSE grant.

Sincerely,

Kenneth Simonson
Director, Academics, Emerging Ethnic Engineers Program
College of Engineering and Applied Science
December 7, 2015

Dr. Myles G. Boylan
Lead Program Director, IUSE Program
Division of Undergraduate Education
Directorate for Education & Human Resources
The National Science Foundation
Arlington, VA

Dear Dr. Boylan:

I am writing to support for the University of Cincinnati’s proposal, "ACCEND (ACCELERATED ENGINEERING DEGREE): A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs,” which is being submitted to NSF’s Improving Undergraduate STEM Education (IUSE) program.

UC has implemented a first-year experience (FYE) initiative called Learning Communities (LC). A LC is an educational package that enrolls a small group of students with shared academic interests into a comprehensive program each semester of their first year of college. Students are co-enrolled in coursework and meet at pre-scheduled times to study, work on team projects, plan service-learning activities, and engage in related professional development or social events. A Peer Leader (PL) is an upper-class student trained by FYE staff to facilitate the LC meeting time and be both an academic support and mentor for the 20 first year students. The PLs facilitate a curriculum that emphasizes connecting students with people and opportunities, involving students in academic life and learning support systems, helping students to develop their professional presence, and highlighting how students can pull together their social, academic, and experiential learning into one, cohesive foundation for their collegiate achievements. In CEAS there are over 50 LCs enrolling approximately 90% of the CEAS first-year class each year.

I am responsible for the Peer Leader program, and work with UC’s colleges to align program-specific goals and learning outcomes with those emphasized in the LC structure. As part of this NSF IUSE grant, I will ensure that the CEAS PLs training includes awareness of the MS-ACCEND Program and that PLs will share information about the program with students in their LC. We will use a special video on "Why An Advanced Degree Is A Smart Fiscal And Career Move," which will be developed by CEAS and feature a diverse group of UC CEAS alumni, as one of the primary tools to convey the message that pursuing the ACCEND dual degree program is a valuable pathway. Use of this video by the PLs in their LCs will insure quality control and uniformity of message conveyed over multiple CEAS FYE LCs.

Please feel free to contact me at Lauren.Bosselait@uc.edu if you have any questions.

Sincerely yours,

Lauren Bosselait
Associate Director
November 20, 2015

Dear NSF IUSE Proposal Reviewers:

I am writing in support of the NSF IUSE Proposal, "ACCEND (ACCELERATED ENGINEERING DEGREE): A MODEL FOR ENHANCING RECRUITMENT, RETENTION, ON-TIME GRADUATION AND CAREER ADVANCEMENT IN ENGINEERING DUAL (BS+MS) DEGREE PROGRAMS," submitted by Professor Anant Kukreti, PI, in the Department of Biomedical, Chemical, and Environmental Engineering (BCEE) in the College of Engineering and Applied Science (CEAS) designed to prepare undergraduates to pursue a BS and a MS dual degree in engineering for their next career step by participating in various curricular experiences and developing a digital portfolio which supports their career goals.

Specifically, I can speak to the Engineering MS-ACCEND track of the program that seeks to prepare undergraduates to successfully pursue a PhD program either at the University of Cincinnati or another institution with the view to become future faculty. The Center for Enhancement of Teaching & Learning (CET&L) at UC offers an array of programs, ranging from teaching strategies to grant-writing and work-life balance issues, which would provide participating undergraduates with knowledge and tools to better prepare them for a career in higher education.

This NSF IUSE proposal provides a unique opportunity for undergraduates to achieve a holistic understanding of the role of faculty and as such better prepares them for the challenges and opportunities of graduate study. By having a solid understanding of the responsibility/role of a faculty member, these students will be able to be more strategic and successful in their pursuit of a PhD as well as a faculty position in higher education.

To support this grant proposal, CET&L will open appropriate programs to the engineering students who participate in the "ACCEND (ACCELERATED ENGINEERING DEGREE): A MODEL FOR ENHANCING RECRUITMENT, RETENTION, ON-TIME GRADUATION AND CAREER ADVANCEMENT IN ENGINEERING DUAL (BS+MS) DEGREE PROGRAM" program.

For the reasons that I’ve mentioned in this letter, I strongly support the student, faculty and staff training programs being pursued in this proposal and look forward to the success of this NSF IUSE Proposal.

Sincerely,

Bryan R. Smith, Ph.D.

Director, Center for the Enhancement of Teaching & Learning
To: Dr. Myles G. Boylan, Lead Program Director, IUSE Program
Division of Undergraduate Education
Directorate for Education & Human Resources, The National Science Foundation
Arlington, VA

From: Kristin McArthur, President, UC Society of Women Engineers (SWE)

Date: October 16, 2015

RE: NSF program: NSF Improving Undergraduate STEM Education (IUSE)

The Society of Women Engineers at UC is in full support of the proposal: "ACCEND (ACCELERATED ENGINEERING DEGREE): A MODEL FOR ENHANCING RECRUITMENT, RETENTION, ON-TIME GRADUATION AND CAREER ADVANCEMENT IN ENGINEERING DUAL (BS+MS) DEGREE PROGRAMS" under the NSF program: NSF Improving Undergraduate STEM Education (IUSE).

The Society of Women Engineers mission is:

"Stimulate women to achieve full potential in careers as engineers and leaders, expand the image of the engineering profession as a positive force in improving the quality of life, and demonstrate the value of diversity."

In support of this mission, UC SWE actively promotes engineering as a career and provides opportunities for learning and professional development to grow currently enrolled women engineers.

UC SWE members participate in bi-weekly meetings, outreach events, professional development events, and regional and national conferences. Each bi-weekly meeting has an agenda and typically a speaker from industry or academia. For example, this fall SWE hosted Jill Flood from the Division of Professional Practice and Experiential Learning to discuss preparing for the career fair and "Working with Difficult People" by Jessica Fitzwilson from Turner Construction, and three local engineers participated in a panel discussion regarding engineering as a career. Approximately 30 students attended the SWE Society Conference in Nashville, TN to attend meetings, professional development events, and a large career fair.

In February, UC SWE will host the Region G Conference at UC. This is a conference of collegiate and professional members from KY, OH, WV, and western PA. More than 250 women are expected for 1.5 days of professional development and networking events. One of the key initiatives of the organization is to better support and promote graduate students/studies. For the Region G Conference, UC SWE has already planned a panel discussion of students and professionals with graduate degrees to discuss the benefit and application of an advanced degree in an engineering career.

UC SWE schedules speakers for every bi-weekly meeting throughout the year. In the past we have hosted UC women faculty to discuss graduate school. SWE will plan to host a panel of professional engineers holding advanced degrees to discuss why they choose to pursue and advanced degree, the impact it has had on their career, and promote graduate education to the undergraduate students. UC SWE can also host a speaker from the UC graduate school to talk about graduate school options, the application timeframe, and process. SWE can promote College of Engineering and Applied Science activities and events associated with promoting graduate school to our membership as well as all women in the college through our women engineers' listserv.

Activities associated with promoting graduate studies directly aligns with the SWE mission and the goals of SWE and of the UC SWE section. UC SWE whole-heartedly supports the NSF proposal.

Kristin McArthur, UC SWE President
Nov 22, 2015

Dr. Myles G. Boylan  
Lead Program Director, IUSE Program  
Division of Undergraduate Education  
Directorate for Education & Human Resources  
The National Science Foundation  
Arlington, VA

Dear Dr. Boylan:

With this letter I wish to confirm my commitment as given in the NSF IUSE proposal, “ACCEND (ACCelerated ENgineering Degree): A Model for Enhancing Recruitment, Retention, On-Time Graduation and Career Advancement in Engineering Dual (BS+MS) Degree Programs”

My responsibility will be to provide training through two workshops. The first is for the students, through a specific mentee workshop that empowers them to be more proactive and driven in their own mentoring relationships (adapted from materials obtained through the National Center for Faculty Development & Diversity, facultydiversity.org). The second workshop is for the mentor-mentee team of student and academic research advisor to develop more positive communication skills and clearer expectations of the relationship (adapted from materials obtained through the Women in Engineering ProActive Network, wepan.org). I am personally committed to seeing that our undergraduates experience a rewarding research opportunity on campus. I have given each of these workshops more than two dozen times across the university to many other groups and programs. The participants have found them to be highly effective in increasing research outcomes and enhancing the partnership between student and advisor.

Sincerely,

Margaret M. Hanson