

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. Contract Number	Page of Pages	
				1	54
2. Amendment/Modification Number	3. Effective Date	4. Requisition/Purchase Request No.		Design Services for Seas Laboratory Renovation Project, Building 32/42	
GF-2013-Q-0107-003	June 24, 2013				
6. Issued By: University of the District of Columbia Capital Procurement Division 4200 Connecticut Avenue, NW Building 38, Room C04 Washington, DC 20008		Code	7. Administered By (If other than line 6) University of the District of Columbia Capital Procurement Division 4200 Connecticut Avenue, NW Building 38, Room C03 Washington, DC 20008		
8. Name and Address of Contractor (No. Street, city, country, state and ZIP Code)			(X)	9A. Amendment of Solicitation No. GF-2013-Q-0107-003	
				9B. Dated (See Item 11) June 24, 2013	
				10A. Modification of Contract/Order No.	
				10B. Dated (See Item 13)	
Code	Facility				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of <input type="checkbox"/> is extended. <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning <input type="checkbox"/> copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. Accounting and Appropriation Data (If Required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14					
A. This change order is issued pursuant to: (Specify Authority)					
The changes set forth in Item 14 are made in the contract/order no. in item 10A.					
B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) set forth in item 14, pursuant to the authority of 27 DCMR, Chapter 36, Section 3601.2.					
C. This supplemental agreement is entered into pursuant to authority of:					
D. Other (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return 1 copy to the issuing office.					
14. Description of amendment/modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)					
Solicitation No. GF-2013-Q-0107 for the Design Services for Seas Laboratory Renovation Project, Building 32/42 is hereby amended as follows:					
1) Questions & Answers					
2) Draft Program Study Procurement (Attachment 1);					
3) Draft Project Phasing Plan (Attachment 2);					
4) Laboratory Criteria for ABET Accreditation (Attachment 3);					
5) ABET Criteria 7 and it Linkage to Curriculum (Attachment 4);					
6) School of Engineering and Applied Sciences -SEAS (Attachment 5);					
7) Information for the Testimony for the DC Council (Attachment 6);					
8) Space Utilization Plan (Attachment 7);					
9) Existing Building Stacking Diagram (Attachment 8);					
10) All other Terms and Conditions remain unchanged.					
Except as provided herein, all terms and conditions of the document referenced in Item (9A or 10A) remain unchanged and in full force and effect					
15A. Name and Title of Signer (Type or print)			16A. Name of Contracting Officer		
			SHERRY JONES-QUASHIE		
15B. Name of Contractor		15C. Date Signed	16B. District of Columbia		16C. Date Signed
			Sherry Jones-Quashie		6/24/13
(Signature of person authorized to sign)			(Signature of Contracting Officer)		

Questions & Responses

1	Are the estimated hours, costs and the schedule of values all to be submitted by 2pm on June 20, 2013?	No.
2	Is there a list of finishes, utilities, and equipment available for each room?	No. Additional physical space and equipment requirements will be provided to the AE upon Contract Award. The AE is required to gather all program information, including physical space and equipment requirements provided by the University, through its own surveys and meetings to verify the program information meets the ABET accreditation requirements and the End User’s requirements.
3	Is there a list or inventory available of the existing equipment to remain or to be relocated?	No. Additional physical space and equipment requirements will be provided to the AE upon Contract Award. The AE is required to gather all program information, including physical space and equipment requirements provided by the University, through its own surveys and meetings to verify the program information meets the ABET accreditation requirements and the End User’s requirements.
4	Is there a list or inventory available of the new equipment that will go into the new or existing rooms?	No. Additional physical space and equipment requirements will be provided to the AE upon Contract Award. The AE is required to gather all program information, including physical space and equipment requirements provided by the University, through its own surveys and meetings to verify the program information meets the ABET accreditation requirements and the End User’s requirements.
5	Is there a master plan available for the consolidation of the spaces and/or relocations in the building?	Refer to Attachment 1: Draft Project Phasing and Attachment 2: Draft Project Phasing Plan for a proposed SEAS space plan. Additional physical space and equipment requirements will be provided to the AE upon Contract Award. The AE is required to gather all program information provided by the University and verify the program information meets the ABET accreditation requirements and the End User’s requirements.

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Amendment No. 003

6	Will there be any equipment changes in the electric and electronic labs that are planned to be upgraded?	Yes. Additional physical space and equipment requirements will be provided to the AE upon Contract Award. The AE is required to gather all program information provided by the University and verify the program information meets the ABET accreditation requirements and the End User’s requirements.
7	What are the hours of operation?	The University hours of operation are Monday - Friday 8:30 a.m. – 5:00 p.m.
8	Does the construction need to be performed after hours and after the school year?	Construction shall be performed to minimize disruption to University classes and research. However, it is expected that construction work will likely take place during the school year in order to meet the scheduled completion date. Construction can take place after hours with prior approval by the University.
9	What is the budget inclusive of?	The budget on page 1 of “Appendix A” of the Solicitation is inclusive of construction. For the purpose of answering this question construction would be defined as all elements that are brought to the 100% Construction Documents/Final Compliance Submission
10	Is there an extension for submitting the required information?	Not enough detail to answer the questions.
11	Is the project to be performed in phases?	Yes. The project must be phased to accommodate the academic calendar and minimize disruption to University classes and research.
12	With the requirement for two estimators, will you require reconciliation between the two estimates?	No. The AE shall not exceed the construction budget identified in this scope via either one of the independent construction cost estimates.
13	Will you require value engineering services?	The Solicitation does not specify how the AE is to design under the budgeted amount.
14	Is there a requirement for SBE participation. Sections 4.0 and 6.0 have conflicting information.	No. There is no mandatory requirement. However, if the A/E decides to subcontract any portion of this project, section 6.0 applies.

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15	Is there an existing ABET report indicating specific requirements for the design? Has this been fully vetted with the users? Please clarify the extent of research required by the selected A/E firm.	The solicitation does not specify how the AE is to research the ABET requirements and confirm the need of all program requirements requested by the SEAS faculty. Refer to Attachments 3-7 for the School of Engineering and Applied Science Academic planning documentation for further detail.
16	In addition to providing permitting documents for the 21,000sf of program space, please confirm/clarify that a 15% Concept Design submission also includes the same 21,000sf of program space.	Refer to Attachment 1: Draft Project Phasing and Attachment 2: Draft Project Phasing Plan for area of work across the various building floors. Refer to Attachment 8: Existing Building Stacking Diagram for an existing SF estimate and general program locations. The 21, 000 SF relates specifically to the work covered under the renovation of Civil and Mechanical Engineering Labs and this number is an estimated square foot amount. However the final scope and square footage for the 100% Construction Submission/Final Compliance Submission will ultimately be determined by the final approved design and estimated cost.
17	If the Concept Design submission meets all of the ABET requirements, but comes in over budget, what do you anticipate the process to be for identifying scope of work for inclusion in final construction documents?	As stated in “Appendix A” of the Solicitation the AE shall not exceed the construction budget identified in this scope via either one of the independent construction cost estimates. For that reason if the described scenario occurs, the University will work with the AE to identify the scope of work for inclusion into the 100% Construction Submission/Final Compliance Submission in order to maintain the cost under the approved budget amount.
18	Will separate cost estimates be required for the Construction Documents package and the 15% Concept Design package?	The cost estimates are to be provided in conjunction with the design submissions. The 15% Concept Design Estimate would provide an estimated cost for the entire 15% Concept Design Documents package. The offeror should provide additional estimate breakout for Sections 1(b) and 1(c) in “Appendix A” Scope of Work on page 2 of the Solicitation. This will allow the University isolated budget costs for potential projects related to these scope of work subject to future funding and approval.
19	What is the approximate linear feet of pavers to be installed?	Approximately 1,400 linear feet

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20	What type of technology is anticipated for the consolidated spaces versus the concept design spaces?	Additional physical space and equipment requirements will be provided to the AE upon Contract Award. Further, additional technology requirements will be provided to the AE through the University in the form of design review comments collected from various University stakeholders (End Users, OIT, Facilities, Learning Resources-AV) for inclusion by the AE during the design submissions.
21	Can the review time (7 calendar days) be reduced for both user approvals and owner submissions?	Not enough detail to answer the questions.
22	Given the short turn-around period for the RFQ response, and the fact that this instead of a full price proposal request, will a submission extension be granted?	Extension was granted in amendment No.1 and amendment No. 2.
23	Please confirm that an approved SEAS space planning program and equipment requirements list has been prepared, and if so, kindly provide with the RFP to help establish project scope.	Refer to Attachment 1: Draft Project Phasing and Attachment 2: Draft Project Phasing Plan for a proposed SEAS space plan. Additional physical space and equipment requirements will be provided to the AE upon Contract Award. The AE is required to gather all program information provided by the University and verify the program information meets the ABET accreditation requirements and the End User’s requirements.
24	Please confirm that the plaza paver repair scope is limited to that perimeter area needed to allow for plaza deck waterproofing flashing replacement at the Bldg. 32/42 perimeter.	Confirmed.

25	<p>Please confirm the intent of the environmental testing requirement. Does it apply only to Room 42/C06, or to entire building scope area? The Environmental Testing is specifically called out in the Scope of Work for 42/C06 due to the unknown nature of the hazard in this specific location or the environmental testing required confirming the potential hazard and its method of abatement. However the AE is required to verify the level of additional testing required in order to complete the Scope of Work in “Appendix A” of the Solicitation.</p>	<p>The AE is to include in the design and/or specifications provisions for the contractor to remove and properly dispose of construction debris and demolished material, including, fans, ductwork, piping, light bulbs, wiring, etc. The contractor shall also be responsible for identifying any contaminated equipment and/or material (chemical or radioactive). The Contractor will be responsible for decontamination and disposal of old fume hoods.</p> <p>The AE will have a certified industrial hygienist visit each fume hood and provide a brief report on the survey findings. This effort is estimated to be up to two hours per fume hood, and is meant to protect the surveyors from any unidentified hazards as they survey the existing equipment. The number of fume hoods is estimated at 10.</p>
26	<p>Please confirm area of work across the various building floors. Is the quoted 21,000 sq. ft. of floor area related to SEAS functions only?</p>	<p>Refer to Attachment 1: Draft Project Phasing and Attachment 2: Draft Project Phasing Plan for the area of work across the various building floors. Refer to Attachment 8: Existing Building Stacking Diagram for an existing SF estimate and general program locations. The 21, 000 SF relates specifically to the work covered under the renovation of Civil and Mechanical Engineering Labs, however final project phasing will ultimately be determined by the final design and estimates.</p>
27	<p>Please confirm availability of CADD backgrounds that can be provided to A-E upon project award.</p>	<p>CADD backgrounds will be provided to the AE upon project award. The available drawings of the existing site may or may not correctly indicate the existing conditions. The A/E is responsible for performing field investigations and verifications of drawings and documents furnished by the University.</p>
28	<p>On page 1 of Appendix ‘A’, please clarify “...and current and projected University resources in order to complete the scope of work.”</p>	<p>The design must provide for flexibility and incorporate design and construction work currently underway as well as capacity identified the University during the design review process.</p>
29	<p>On page 1 of Appendix ‘A’, does “...investigation and testing of existing building systems...” imply that the A-E is to verify existing mechanical, plumbing and electrical systems to see if they are in working order?</p>	<p>Yes. “AE services shall be comprehensive in nature and include all necessary field survey, investigation & testing of existing building systems...in order to complete the Scope of Work.”</p>

30	<p>On page 2 of Appendix ‘A’, it states that the A-E must research program accreditation requirements and incorporate same into the design. Is the A-E expected to engage an education facilities planner to assess existing facilities and pedagogic programs and measure against accreditation requirements? Have the Department heads defined their pedagogic goals for future program content, and if so, can it be made part of the RFP?</p>	<p>The solicitation does not specify how the AE is to research the ABET requirements and confirm the need of all program requirements requested by the SEAS faculty. However, refer to Attachments 3-7 for the School of Engineering and Applied Science Academic planning documentation for further detail.</p>
31	<p>Is the Design to Final Compliance scope only the four items defined on page 2 of Appendix ‘A’'s Scope of Work, implying that all other design studies for SEAS consolidation is only to be taken to the 15% Concept Design level? i.e. there are no planned design changes to existing spaces other than HVAC upgrades as part of the 100% Final Compliance, with all other design studies at the 15% Concept Design level?</p>	<p>Regarding “Appendix A” Scope of Work on page 2 of the Solicitation, Items 1(a), 2 & 3 must be brought to 100% Final Compliance Documents. The exception would be where any infrastructure upgrades outlined in Sections 1(a), 2 & 3 affect the areas identified in Sections 1(b) and 1(c). However the final scope and square footage for the 100% Construction Submission/Final Compliance Submission will ultimately be determined by the final approved design and estimated cost.</p>
32	<p>Please confirm the schedule intent for construction as a function of the academic calendar.</p>	<p>The project must be phased to accommodate the academic calendar and minimize disruption to University classes and research. However it is expected that construction work will likely take place during the school year in order to meet the scheduled completion date. Construction can take place during after hours with prior approval by the University.</p>

ATTACHMENT 1

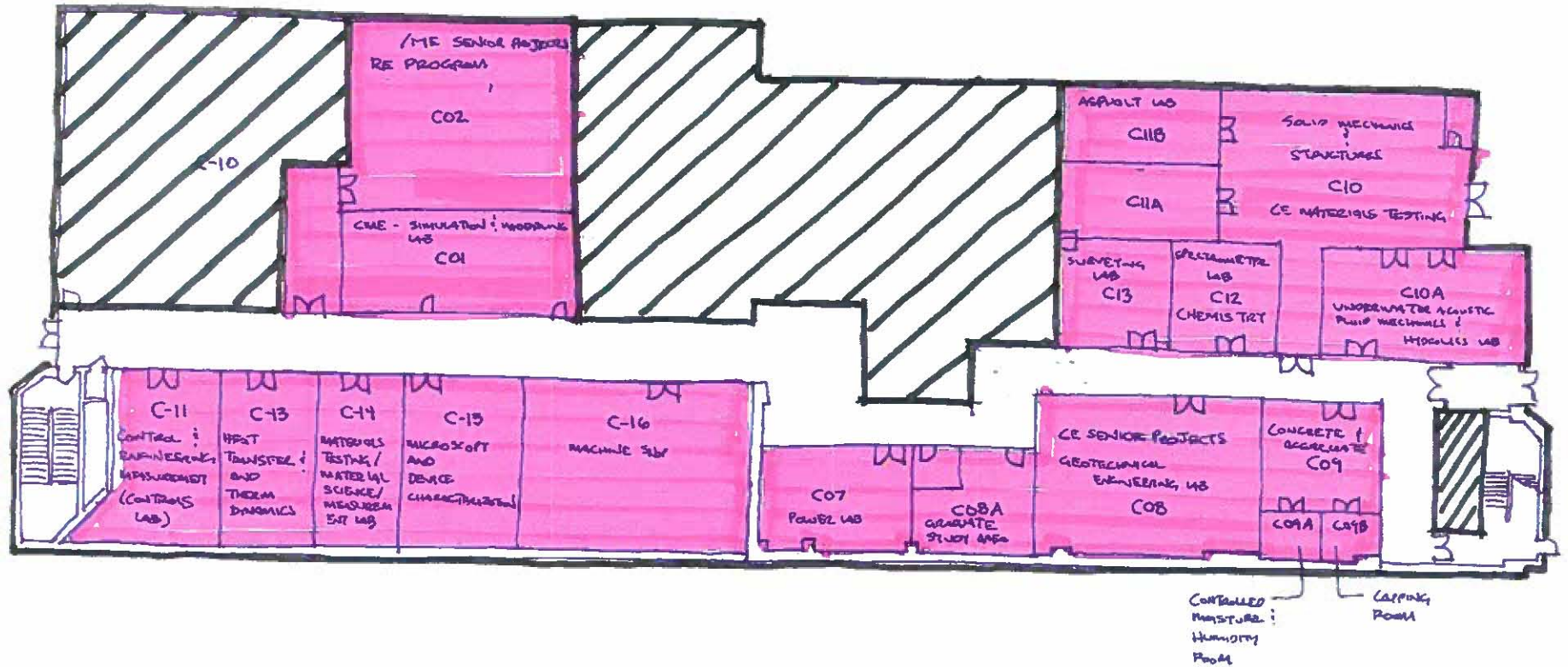
Draft Program Study Document

Bldg	Number	SF	Current/Formally	Status	From	Number	To	Number	SF	Description	Primary Stakeholder	Department/College
42	C06	183	Radioactive Material Storage	CONVERT	32	201B	42	C07	750	Power Systems Lab	Lakeou	EE Engineering
42	C07	369	Surveying Teaching Laboratory	CONVERT								
42	C08, C08A	1,621	Soil Demonstration Teaching Lab, Dust Collector Room/Storage Room	RENOVATE	42	C08	42	C08	984	Geotechnical Engineering, Mechanics of Materials CE Senior Projects	Bhambri	CE Engineering
42	C09	684	Aggregates Test Laboratory	RENOVATE	42	C09	42	C09	600	Office Graduate Research Staff Concrete and Aggregate Lab (including Capping/Humidity Room)	Bhambri	CE Engineering
42	C10	677	Materials Receiving	CONVERT	42	C10	42	C10	960	Solid Mechanics & Structures Lab & CE Materials Testing Lab	Bhambri	CE Engineering
42	C10C	120	Office	CONVERT	42	C10C						
42	C10D	95	Office	CONVERT	42	C10D						
42	C10E	114	Office	CONVERT	42	C10E						
42	C10A	381	Moist Environmental Test Room # 1	CONVERT	42	C10A	42	C10A	288	Fluid Mechanics/Hydraulics Lab	Adebayo Behera Bhambri	CME Engineering
42	C10B	373	Moist Environmental Test Room # 2	CONVERT	42	C10B						
				CONVERT	42	C11B	42	C11B	378	Asphalt Lab	Bhambri	CE Engineering
42	C12	420	Soil Test Laboratory	CONVERT	42	C12	42	C12	420	Specrometer/Chemistry Lab	Bhambri	CAS/SEAS Partnership
42	C13	381	Cylinders Capping Room	CONVERT	42	C13	42	C-13	300	Survey Lab	Bhambri	CE Engineering
32	C02, C02A	1254	Metals Lab & Storage	RENOVATE	42	111	32	C01	500	Simulation & Modeling Lab	Shetty	CME Engineering
32	C01	1449	HVAC/Heat Transfer Lab	RENOVATE	NA	NA	32	C02	1800	Renewable Energy Program ME Senior Projects	Behera Tyagi	MEE Engineering Interdisciplinary
32	C04	610	Dynamics Lab	RENOVATE	32	206	32	C-11	451	Controls & Engineering Measurement (i.e. Control Systems Lab)	Adebayo Mahmoud Shetty Tyagi Klien	CME Engineering
32	C05	2626	Machine Shop Manufacturing & Storage	RENOVATE	32	C05	32	C05	1200	Machine Shop	Shetty	CME Engineering
				RENOVATE	32	C05B	32	C05B	600	Microscopy and Device Characterization Lab	Adebayo Klien Tyagi	ME Engineering
				RENOVATE	42	C11	32	C14	417	Mechanics of Material/Material Science/Measurement Lab	Klien	ME Engineering
				RENOVATE	42	111	32	C-13	654	Heat Transfer and Thermodynamics	Adebayo Klien	ME Engineering
42	A07	571	History and Theory	EXISTING	32	202B	42	A07	900	Network Research Lab	Yu Zehadali	Computer Science
42	A09	542	Architectural Classroom	EXISTING	32	201A	42	A09	500	Networking Class	Barnett Zehadali	Computer Science
					32	206	42	A10	1445	Tutorial/Student Retention Lounge	Shetty	Inter-disciplinary
42	A02	68	Storage	EXISTING	42	A03	42	A03	68	STEM Research	Barnett	
42	A03	68	Storage	EXISTING	42	A04	42	A04	68	Common Computational Lab for Engineering Students		
32	A01	1200	Communications Lab	EXISTING	32	A01	32	A01	1200	Communications Lab	Cotae	EE Engineering
32	A02	1154	Circuits Teaching Lab	EXISTING	32	A02	32	A02	1154	Circuits Teaching Lab	Bhar Ghani	EE Engineering
32	A03	1169	Digital System Teaching Lab	EXISTING	32	A03	32	A03	1169	Digital System Teaching Lab	Mahoud	EE Engineering
32	A04A	171	Prep. Room/Electronics Storage	EXISTING	32	A04A	32	A04A	171	Prep. Room/Electronics Storage	Cotae	EE Engineering
32	A04B	82	Electronics Secured Storage	EXISTING	32	A04B	32	A04B	82	Electronics Secured Storage	Cotae	EE Engineering
32	A04	919	Electronics Shop	EXISTING	32	A04	32	A04	1200	EET Lab	Cotae	EE Engineering
32	A05	684	Science and Engineering Center Multi-Lab	RENOVATE	NA	NA	32	A05	684	Robotics Research Lab	Wellmen	Computer Science
42	109	165	Waiting Area	EXISTING	42	109	42	109	165	Waiting Area		
42	111	1,777	Thermofluids Lab	RENOVATE	42	111	42	111A	1800	Bioengineering Lab	Klien Tyagi	ME Engineering Interdisciplinary
				RENOVATE	42	111	42	111B	1800	Micro-Nano Fabrication Lab	Tyagi Klien Cotae Bhar	MEE Engineering Multi-disciplinary
42	112	332	Faculty Office Corridor	EXISTING	42	112	42	112	332	Faculty Office Corridor	Yu	Computer Science
42	115	129	IEEE Office	EXISTING	42	115	42	115	129	IEEE Office	Mahmoud	EE Engineering
42	109A	113	Office	EXISTING	42	109A	42	109A	113	Office	Yu	Computer Science
42	109B	114	Office	EXISTING	42	109B	42	109B	114	Office	Yu	Computer Science
42	109C	114	Office	EXISTING	42	109C	42	109C	114	Office	Yu	Computer Science
42	109D	118	Office	EXISTING	42	109D	42	109D	118	Office	Yu	Computer Science
42	109E	118	Office	EXISTING	42	109E	42	109E	118	Office	Yu	Computer Science
42	109F	116	Office	EXISTING	42	109F	42	109F	116	Office	Yu	Computer Science
42	109G	19	Closet	EXISTING	42	109G	42	109G	19	Closet	Yu	Computer Science
42	109M	881	Computer Lab	EXISTING	42	108	42	108	900	Computer Science Teaching Lab	Yu	Computer Science


42	109H	113	Office	EXISTING	42	109H	42	109H	113	Office	Yu	Computer Science
42	109I	114	Office	EXISTING	42	109I	42	109I	114	Office	Yu	Computer Science
42	109J	115	Office	EXISTING	42	109J	42	109J	115	Office	Yu	Computer Science
42	109K	116	Office	EXISTING	42	109K	42	109K	116	Office	Yu	Computer Science
42	109L	114	Office	EXISTING	42	109L	42	109L	114	Office	Yu	Computer Science
42	112A	138	Office	EXISTING	42	112A	42	112A	138	Office	Yu	Computer Science
42	112B	89	Office	EXISTING	42	112B	42	112B	89	Office	Yu	Computer Science
42	112C	134	Office	EXISTING	42	112C	42	112C	134	Office	Yu	Computer Science
42	112D	143	Office	EXISTING	42	112D	42	112D	143	Office	Yu	Computer Science
42	112E	145	Office	EXISTING	42	112E	42	112E	145	Office	Yu	Computer Science
42	112F	143	Office	EXISTING	42	112F	42	112F	143	Office	Yu	Computer Science
42	112G	143	Office	EXISTING	42	112G	42	112G	143	Office	Yu	Computer Science
42	112H	145	Office	EXISTING	42	112H	42	112H	145	Office	Yu	Computer Science
42	112I	50	Storage	EXISTING	42	112I	42	112I	50	Storage	Yu	Computer Science
42	113A	476	Computer Lab/Classroom	EXISTING	42	113A	42	113A	476	Office	Yu	Computer Science
42	113B	874	Computer Lab/Classroom	EXISTING	42	113B	42	113B	900	Computer Lab/Classroom	Yu	Inter-disciplinary
42	114A	499	Computer Lab/Classroom	EXISTING	42	114A	42	114A	456	Computer Lab/Classroom	Lakeou	CME Engineering
42	114B	909	Computer Lab/Classroom	EXISTING	42	114B	42	114B	900	Computer Science Teaching Lab	Yu	Computer Science
32	102	1460	Senior Project Lab and Superconductivity Research	EXISTING	32	102	32	102	1500	EE Senior Project Lab	Osoyanya	EE Engineering
32	102A	205	Storage Room	EXISTING	32	102A	32	102A	205	Storage Room		EE Engineering
32	102C	161	Storage Room	EXISTING	32	102C	32	102C	161	Storage Room		EE Engineering
32	102B	340	Computer Technician Office	EXISTING	32	102B	32	102B	340	Computer Technician Office	Yu	Computer Science
32	101W	704	Terminal Lab	EXISTING	32	101W	32	101W	750	Research Lab	Yu	Computer Science
32	101	1226	Lab	EXISTING	32	101E	32	101E	1000	Computer Science Teaching Lab	Yu	Computer Science
32	105	428	Classroom	EXISTING	32	105	32	105	428	Classroom	Shetty	Inter-disciplinary
32	106	428	Classroom	EXISTING	32	106	32	106	428	Classroom	Shetty	Inter-disciplinary
32	107	434	Classroom	EXISTING	32	107	32	107	434	Classroom	Shetty	Inter-disciplinary
42	209	309	Classroom	EXISTING	42	209	42	209	309	Classroom	Shetty	Inter-disciplinary
42	210	409	Classroom	EXISTING	42	210	42	210	409	Classroom	Shetty	Inter-disciplinary
42	211	357	Dean's Suite	EXISTING	42	211	42	211	357	Break Room	Shetty	Shetty
42	212F	1,358	Math/Stat Lab	EXISTING	42	212F	42	212F	1,358			
42	212G	100	Waiting Area	EXISTING	42	212G	42	212G	100	Waiting Area	Shetty	Dean's Office
42	212H	138	Dean's Office Receptionist	EXISTING	42	212H	42	212H	138	Dean's Office Receptionist	Shetty	Dean's Office
42	212I	91	Storage	EXISTING	42	212I	42	212I	91	Storage	Shetty	Dean's Office
42	212J	45	Storage	EXISTING	42	212J	42	212J	45	Storage	Shetty	Dean's Office
42	212K	46	Coat Closet	EXISTING	42	212K	42	212K	46	Coat Closet	Shetty	Dean's Office
42	212L	95	File Room	EXISTING	42	212L	42	212L	95	File Room	Shetty	Dean's Office
42	212M	593	Conference Room 'A'	EXISTING	42	212M	42	212M	593	Conference Room 'A'	Shetty	Dean's Office
42	212N	238	Conference Room 'B'	EXISTING	42	212N	42	212N	238	Conference Room 'B'	Shetty	Dean's Office
42	212O	147	Dean's Secretary	EXISTING	42	212O	42	212O	147	Dean's Secretary	Shetty	Dean's Office
42	212P	354	Dean's Office	EXISTING	42	212P	42	212P	354	Dean's Office	Shetty	Dean's Office
42	212Q	94	Reproduction	EXISTING	42	212Q	42	212Q	94	Reproduction	Shetty	Dean's Office
42	212R	94	Guest Office	EXISTING	42	212R	42	212R	94	Guest Office	Shetty	Dean's Office
42	212S	207	Administration Assistant	EXISTING	42	212S	42	212S	207	Administration Assistant	Shetty	Dean's Office
42	212T	280	Assistant Dean's Office	EXISTING	42	212T	42	212T	280	Assistant Dean's Office	Shetty	Dean's Office
42	212U	142	Counselor's Office	EXISTING	42	212U	42	212U	142	Counselor's Office	Shetty	Dean's Office
42	212V	50	Closet	EXISTING	42	212V	42	212V	50	Closet	Shetty	Dean's Office
42	213		Department of Engineering and Aerospace Tech	EXISTING	42	213	42	213		Open Office	Shetty	CME Engineering
42	213A	100	Office	EXISTING	42	213A	42	213A	100	Office	Shetty	CME Engineering
42	213B	100	Office	EXISTING	42	213B	42	213B	100	Office	Shetty	CME Engineering
42	213C	100	Office	EXISTING	42	213C	42	213C	100	Office	Shetty	CME Engineering
42	213D	100	Office	EXISTING	42	213D	42	213D	100	Office	Shetty	CME Engineering
42	213E	100	Office	EXISTING	42	213E	42	213E	100	Office	Shetty	CME Engineering
42	213F	100	Office	EXISTING	42	213F	42	213F	100	Office	Shetty	CME Engineering
42	213G	100	Office	EXISTING	42	213G	42	213G	100	Office	Shetty	CME Engineering
42	213H	100	Office	EXISTING	42	213H	42	213H	100	Office	Shetty	CME Engineering
42	213I	100	Office	EXISTING	42	213I	42	213I	100	Office	Shetty	CME Engineering
42	213J	100	Storage	EXISTING	42	213J	42	213J	100	Storage	Shetty	CME Engineering
42	213K	100	Office	EXISTING	42	213K	42	213K	100	Office	Shetty	CME Engineering
42	213L	100	Office	EXISTING	42	213L	42	213L	100	Office	Shetty	CME Engineering
42	213M	100	Office	EXISTING	42	213M	42	213M	100	Office	Shetty	CME Engineering
42	213N	100	Office	EXISTING	42	213N	42	213N	100	Office	Shetty	CME Engineering
42	213O	100	Office	EXISTING	42	213O	42	213O	100	Office	Shetty	CME Engineering
42	213P	100	Office	EXISTING	42	213P	42	213P	100	Office	Shetty	CME Engineering
42	213Q	100	Office	EXISTING	42	213Q	42	213Q	100	Office	Shetty	CME Engineering
42	213R	100	Office	EXISTING	42	213R	42	213R	100	Office	Shetty	CME Engineering
42	213S	138	Conference Room	EXISTING	42	213S	42	213S	138	Conference Room	Shetty	CME Engineering
42	213T	72	Fire Science Administration	EXISTING	42	213T	42	213T	72	Office	Shetty	CME Engineering
42	213U	69	Fire Science Administration	EXISTING	42	213U	42	213U	69	Office	Shetty	CME Engineering


42	213V	69	Office	EXISTING	42	213V	42	213V	69	Office	Shetty	CME Engineering
42	213W	72	Office	EXISTING	42	213W	42	213W	72	Office	Shetty	CME Engineering
42	213X	71	Office	EXISTING	42	213X	42	213X	71	Office	Shetty	CME Engineering
42	213Y	69	Office	EXISTING	42	213Y	42	213Y	69	Office	Shetty	CME Engineering
42	214	1,153	PATHS	RENOVATE	NA	NA	42	214	1800	Potential Lab or Offices	Shetty	Inter-disciplinary
42	214A	276	PATHS	RENOVATE	NA	NA						
42	214B	53	Closet	RENOVATE	NA	NA	NEW	LAB	1800	Bio-Engineering Lab Space	Shetty	Civil/Electrical
42	216	1,319	Research Lab	RENOVATE	N/A	N/A						
42	216A	152	Research Lab Office and Storage	RENOVATE	N/A	N/A						
42	215B	146	Storage	RENOVATE	N/A	N/A						
42	217	129	Storage	EXISTING	42	217	42	217	129	Student Clubs	Shetty	SEAS


ATTACHMENT 2

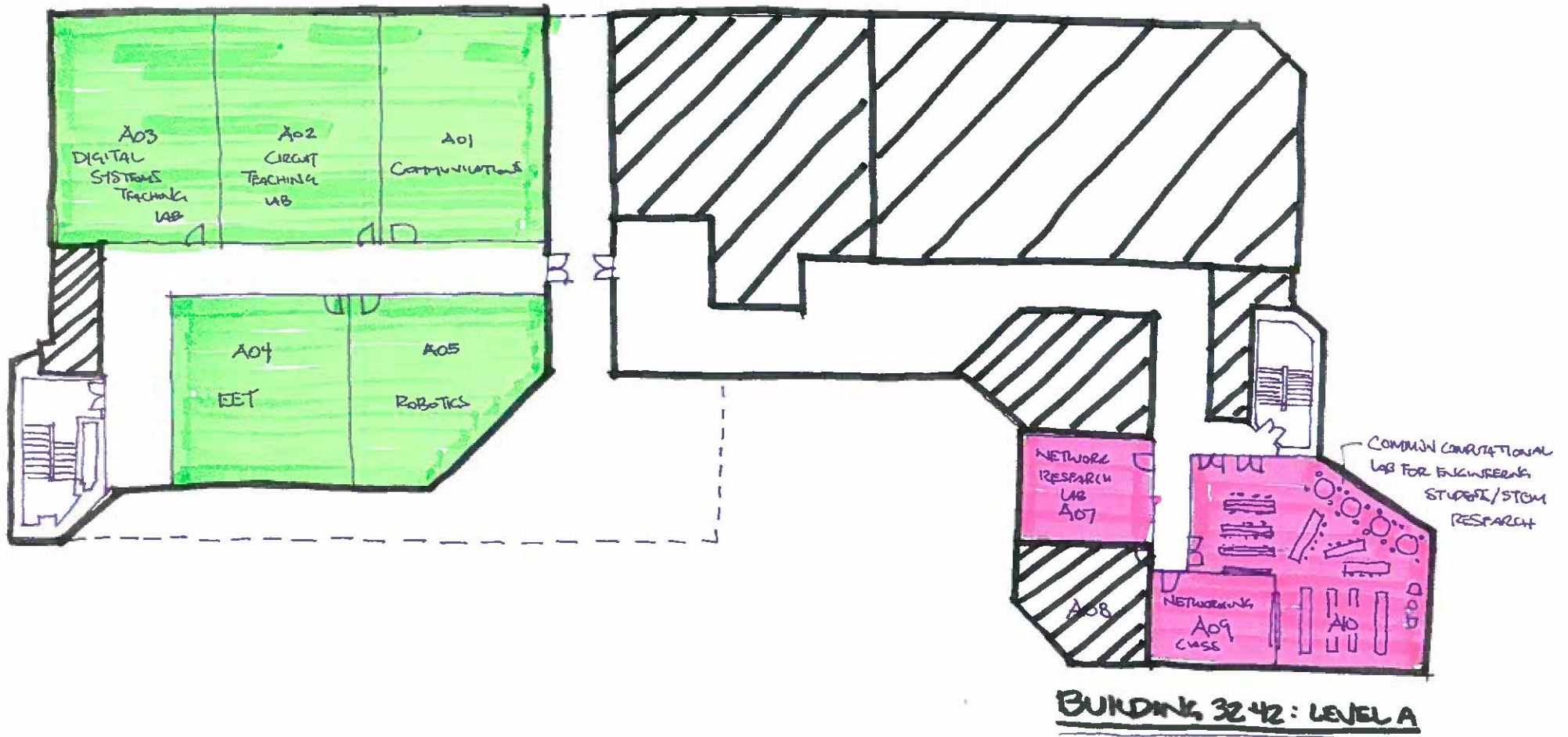


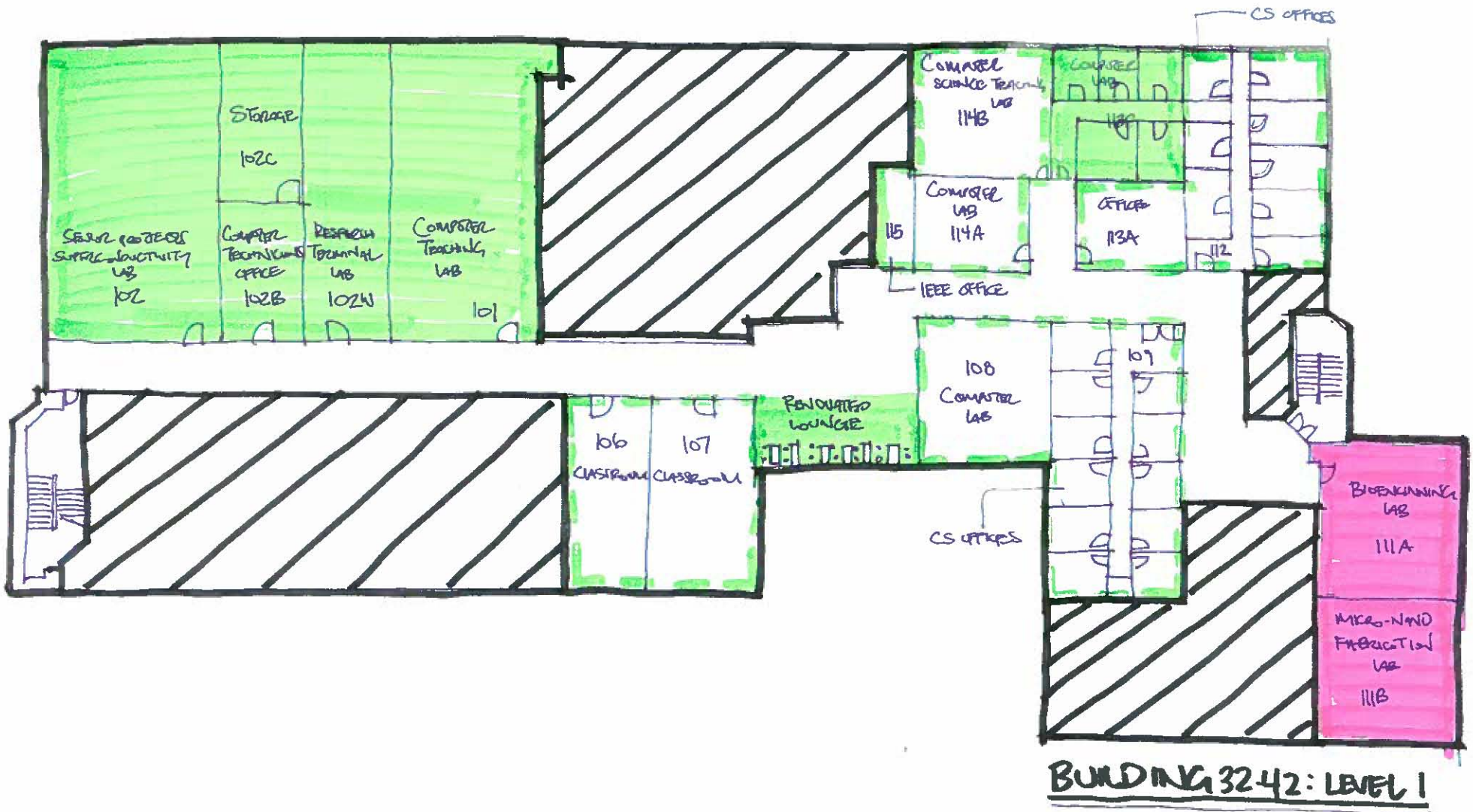
BUILDING 32-42: LEVEL C

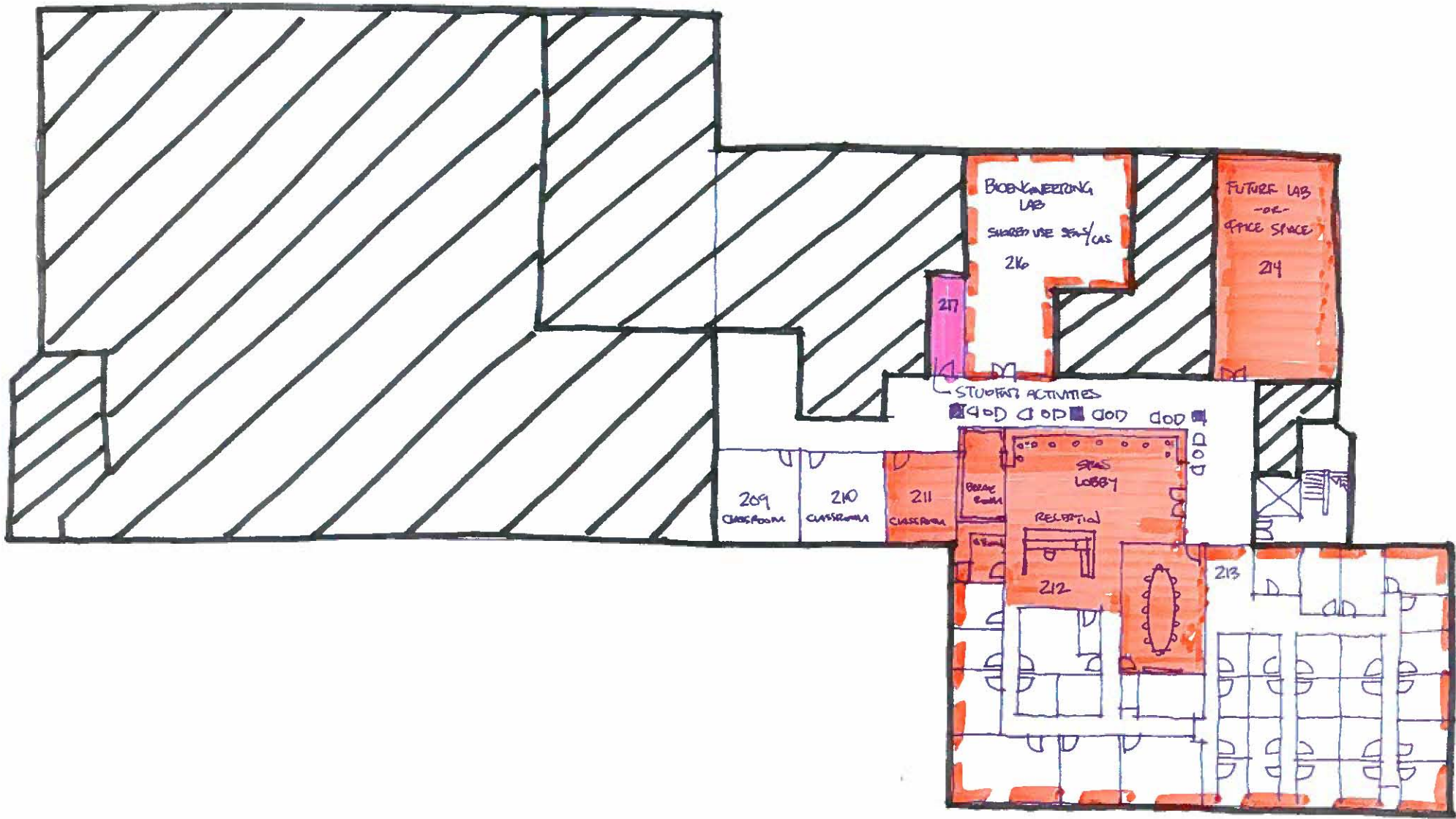
 - PHASE I
(PENDING APPROVAL)

 - PHASE II
NOT APPROVED

 - PHASE III
NOT APPROVED







BUILDING 32-42: LEVEL 2

ATTACHMENT 3

Laboratory Criteria for ABET Accreditation

And

History of the laboratories since last 2008 accreditation

All the facilities, including laboratory and classrooms are essential for proper delivery of instructions in the engineering and computer science in SEAS. The condition of the facilities is reviewed periodically by the accrediting agency, ABET. Any failure to show that the facilities are commensurate with the general criterion of the agency may result in a **deficiency**, which can lead to a **show cause** or **not to accredit** action by the agency.

The criterion is part of the agency's eight general criteria. It is criterion 7 and is stated as follows:

General Criteria 7. Facilities

“Classrooms, offices, laboratories, and associated equipment must be adequate to support attainment of the student outcomes and to provide an atmosphere conducive to learning. Modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, and systematically maintained and upgraded to enable students to attain the student outcomes and to support program needs. Students must be provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories available to the program.”

The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty.

History of the laboratories since last 2008 accreditation visit

1. Civil Engineering- Situation in 2008

In the last self study report submitted to ABET in 2008, the condition of the laboratories in the civil engineering program was described as follows:

“The Civil Engineering laboratories are exceptional. They include: a state of the art geometric facility for instruction in construction and related land surveys. The instruction in construction and related land surveys. The instruments represent that latest in electronic measuring equipment. Included are electronic total stations (both those that require and those that do not require formal target for pointing.) The most recent instruments for leveling (self read barcode rods), and laser distance measuring equipment are also being used by the students. A new addition to our laboratory is the environmental modeling and simulation laboratory which is under development. The use of civil engineering simulation software packages such as TR-20, HEC-RAS, HEC-HMS, SWMM for the analysis and design are very common in professional practices which motivates for the development of this laboratory. A materials testing facility also serves as the testing laboratory for the department's Material Testing Center, which tests construction materials for the District of Columbia's Department of Transportation. The

materials testing facilities provides students with a “real” world testing opportunity as to actual conformity with specifications.”

All the civil engineering courses using these labs are all essential for preserving the integrity of the program and its accreditation. The contribution of all the courses towards the achievement of the student outcomes is reported to ABET as per the matrix provided as an attachment. The rooms used by the civil engineering program included: **32-C02; 32-C04; 32-C05; C-09, C-10 42-C08; 42-C11.**

Current Situation:

Currently, the rooms **32-C02; 32-C04** have been used as “swing space”, for the registrar/admission offices have not yet been **returned** to the program. As a result, all the equipment moved out from these laboratories are relocated in **42-C08** , **42-C10 and 42-C11**, 42-111 and are for the most part dysfunctional. It is therefore imperative that some space be identified for relocating these equipment and render them functional again.

2. Mechanical Engineering- Situation in 2008

In the last self study report submitted to ABET, the condition of the laboratories in the mechanical engineering program was described as follows:

“The mechanical engineering program is served by a Fluid Mechanics and Thermal Systems Laboratory, Materials and Applied Mechanics Laboratory, Dynamics and Robotics Laboratory, and a Machine Shop. All these laboratories are equipped with functional and well maintained equipment. Efforts are made continually to modernize and replace equipment as necessary.”

In addition, all the mechanical engineering courses using these labs are all essential for preserving the integrity of the program and its accreditation. The contribution of all the courses towards the achievement of the student outcomes is reported to ABET as per the matrix provided as an attachment (the example of the Machine Design course is highlighted). The rooms used by the mechanical engineering program included: **32-C01; 32-C02; 32-C05; 42-111.**

Current Situation:

Currently, the rooms **32-C01; 32-C05 (partial)** have been used as “swing space” for the registrar/admission offices and have not been returned to the program yet. As a result, all the equipment moved out from these laboratories are relocated in **42-111 and 42-C10 and C11** and are for the most part dysfunctional. In fact, no lab activity has taken place in F12 semester in the fluid mechanics lab course because of lack of equipment support.

It is therefore imperative that some space be identified for relocating these equipment and render them functional again.

3. Electrical Engineering

The following laboratories are currently available to the program of electrical engineering:

- Advanced Electronics Communications Lab, 32/A04
- Senior Project Lab, 32/102
- Electronics and Communications Lab, 32/A01
- Control Systems and Microwaves Lab, 32/206
- Electric Machines Lab, 32/20B
- Circuits Lab 32/A02
- Digital Systems and Microprocessors Lab, 32/A03

They have all been reported as such in the self study report submitted to ABET in 2008.

In addition, all the electrical engineering courses using these labs are all essential for preserving the integrity of the program and its accreditation. The contribution of all the courses towards the achievement of the student outcomes is reported to ABET as per the matrix provided as an attachment. For example, the room 32-201B is used as a power lab and serves the **ELEC461/462, ELEC 463** courses as reported earlier. The power lab has a set of power equipment such as Electric AC-DC generator/motors, three phase transformers, power electronics setup etc...In the near future, it is planned to incorporate **renewable energy test equipment** in this laboratory.

4. Computer Science

The lab rooms serving the computing needs in SEAS programs are listed below and were all reported in the self study report submitted to CAC-ABET:

Bldg	Room	Operating System	# PCs in Lab	Type
32	A01	Windows XP	10	PC
32	A02	Windows XP	10	PC
32	A03	Windows XP	9	PC
		Linux/Unix	6	SUN
32	A04	Windows XP	7	PC
32	A05	Windows XP	10	PC
32	102	Windows XP	16	PC
32	101W	Windows XP	20	PC

32	101E	Windows XP	27	PC
32	206	Windows XP	8	PC
32	201A	Windows XP	12	Laptop
32	202A	Windows XP	3	PC
		Mac OS X	4	Mac
32	202B	Windows XP	23	PC
32	203	Windows XP	20	PC
32	C01, CO2, CO4	Windows XP	6	PC
42	A07, A09, A10	Windows XP	7	PC
42	113B	Windows XP	25	PC
42	114A	Windows XP	16	PC
42	114B	Windows XP	25	PC
42	111	Windows XP	14	PC
42	214	Windows XP	12	PC
30	Airport Hangar #2	Windows XP	10	PC

In addition, all the computer science courses using these labs are all essential for preserving the integrity of the program and its accreditation. The contribution of all the courses towards the achievement of the student outcomes is reported to ABET as per the matrix provided as an attachment.

ATTACHMENT 4

ABET Criteria 7 and its linkage to curriculum

The satisfaction of **Criterion 7** should be demonstrated by linking the student outcomes to the courses taught and laboratory experiments performed in each program. Both Electrical Engineering and Computer Science Programs have to demonstrate several ABET (a through k) outcomes through curriculum and hands-on work.

For the purpose of clarity, we are listing the outcomes in TABLE 1. In TABLE 2, I am also listing the EE/CS outcomes and their mapping the outcomes to the EE/CS courses and laboratories.

TABLE 1 : ABET Student Outcomes (a thru k)

ABET Outcome (a):	Ability to apply knowledge of mathematics, science and engineering.
ABET Outcome (b):	Ability to design and conduct experiments, as well as to analyze and interpret data.
ABET Outcome (c):	Ability to design a system, component or process to meet desired needs.
ABET Outcome (d):	Ability to function in multi-disciplinary teams.
ABET Outcome (e):	Ability to identify, formulate and solve engineering problems.
ABET Outcome (f):	Understanding of professional and ethical responsibility.
ABET Outcome (g):	Ability to communicate effectively.
ABET Outcome (h):	Broad education necessary to understand the impact of engineering solutions in a global and social context.
ABET Outcome (i):	Recognition of the need for, and an ability to engage in life-long learning.
ABET Outcome (j):	Knowledge of contemporary issues.
ABET Outcome (k):	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

TABLE II (a and b): Coverage of ABET outcomes

Electrical Engineering Outcomes Coverage Matrix (a)

EE COURSES <i>Meets</i>	Course Title	Criteria Covered										
		<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>K</i>
3531-105	Intro to EE & CE	4				3	4	4	4	4		
3531-221	Electrical Circuits I Lec	4	4			5				5		
3531-222	Electrical Circuits II Lec	5		4		4				4		
3531-223	Electrical Circuits I LAB	4	4		4							3
3531-224	Electrical Circuits II LAB	5	5	5		4						
3531-301	Engineering Math	4	4	4						3		4
3531-307	Probability & Stat for	4	4	4		4				4		3
3531-311	Computer Org I Lec	5		4		4						5
3531-312	Comp Org II Lec	5		5	5	5						4
3531-313	Computer Org I Lab	5	5	4		4		4				5
3531-314	Comp Org II Lab	5		5		5						4
3531-351	Electronics I Lec	5	4	5								5
3531-352	Electronics II Lec	5	4	5		4				3		
3531-353	Electronics I Lab	5	5	5		5		5				5
3531-354	Electronics II Lab	5	5	5		4						
3531-356	Physical Electronics	4	4	4		4						
3531-361	Electromagnetic Theory I	4	4		4		4					
3531-362	Electromagnetic Theory II	4	4		4		4					
3531-371	Signals & Systems	5	4	3		5				3		5
3531-459	Digital Computer			5	5				4	5	5	
351-461/462	Energy Conversion	5	4	4		4				5		
3531-463*	Energy Systems	5	4	4		4				4		4
3531-467	Intro to Communications	5	4	5		4		4		4		4
3531-476	Intro to Communications	5	5	5		4				4		5
3531-470	Intro to Controls Sys &	5	5	5		5				5		5
3531-477	Intro to Controls Sys &	5		5				4		4	4	5
3531-478	Dig. Integr. Ckt Design	5	4	4								5
3531-479	Dig. Integr. Ckt Design	5	5	5		4				4	3	4
3531-480	Intro to Comp. Aided	5	5	5		5		4		4		4
3531-483	Intro to Comp. Aided	5		5		5	5	4				
3531-495	Senior Project I	5		5	4		4	5				5
3531-496	Senior Project II	4				3	4	4	4	4		
Score by individual criterion (1-5)**		4	4	4	4	4	3	4	3	4	4	4
OVERALL SCORE for the cycle		4										

Computer Science: OUTCOME COVERAGE MATRIX CORE (b)

Course # (credits)	Title of Course	Program Outcome										
		a	b	c	d	e	f	g	h	i	j	k
3528 110 & 111 (2 & 1)	Intro. To Programming Lec & Lab	X	X	X						X	X	X
3528 231 & 233(3 & 1)	Computer Science I Lecture & Lab	X	X	X	X	X		X		X	X	X
3528 232 & 234(3 & 1)	Computer Science II Lecture & Lab	X	X	X	X	X	X			X		
3528 285(3)	Professional Ethics				X	X	X	X				
3528 115(3)	Computing Foundations	X	X	X		X		X	X	X	X	
3529 241(3)	Data Structures	X	X	X	X	X				X		X
3529 311 & 313(3 & 1)	Computer Organization Lec & Lab	X	X	X						X	X	X
3529 325(3)	Organization of Program. lab	X										
3529 341(3)	Software Engineering		X	X	X		X			X	X	X
3529 351(3)	Computer Networks	X	X	X		X		X		X	X	X
3529 410(3)	Theory of Computing	X	X	X	X	X	X	X	X	X	X	X
3529 412(3)	Operating Systems		X	X							X	X
3529 415(3)	Computer Architecture		X	X							X	
3529 434(3)	Analysis of Algorithms	X	X	X				X		X	X	X
3529 495(1)	Senior Seminar	X	X	X	X	X	X	X	X	X	X	X
3529 499(1)	Senior Project	X	X	X	X	X	X	X	X	X	X	X

ELECTIVES

Course # (credits)	Title of Course	Last Offered	Program Outcome										
			a	b	c	d	e	f	g	h	i	j	k
3529 251 & 253	Assemblers and Systems Lecture & Lab		X	X	X	X	X	X	X	X	X	X	X
3529 304	Algorithmic Techniques ("Event Programming")		X	X	X						X	X	X
3529 315	UNIX Systems Programming		X	X	X	X	X	X			X	X	X

3529 414	Introduction to AI		X	X	X	X	X	X	X	X	X	X	X
3529 424	Translation Software		X	X	X							X	
3529 452	Database Systems Design		X	X	X	X		X			X	X	X
3529 454	Computer Graphics		X	X	X	X	X	X	X	X	X	X	X
3529 461	Systems Simulation		X	X	X						X	X	X
3529 490 (3)	Special Topics in CS (Network Security case)		X	X	X		X		X		X	X	X

OTHER LABORATORY NEEDS IN “SEAS”

- (a) We have a requirement, where the undergraduate students in Mechanical Engineering are required to conduct experiments on the topic of (a) Heat Transfer, (b) Computer Aided Design and Manufacturing (c) Fluid Mechanics and thermo-fluids. During the previous accreditation visit of 2008, there were three separate laboratories that demonstrated these competencies. However, there had been re-shuffling of the laboratories in 2010 resulting in storage of those equipment in one room. It is necessary to create and re-establish these laboratories in 2013.
- (b) Senior Projects Laboratory: The mechanical engineering students do not have a Senior Capstone Projects laboratory, where they can make prototypes. It is necessary to create a Senior Projects laboratory
- (c) Upgrading our machine shop: For a good engineering school a modern machine shop is essential where students build prototypes. This machine shop needs some basic equipment and some repair funds
- (d) Student Learning/Tutoring Lounge Space: A number of SEAS students are part-time students. They spend a considerable time studying or getting tutorial coaching from fellow students and instructor. At this point, there is no dedicated space where such work can be carried out. Having an independent “lounge space” will greatly help student learning and student retention.
- (e) Civil Engineering. Civil Engineering Department had independent Geotechnical laboratory and Surveying and Measurement laboratory during 2008 ABET visit.. These laboratories either do not exist now or have been reassigned to smaller places. CE department also needs space for environmental modeling and simulation laboratory.

ATTACHMENT 5

SCHOOL OF ENGINEERING AND APPLIED SCIENCES - SEAS

Devdas Shetty
January 7, 2013



School of Engineering and Applied Sciences

The **mission** of SEAS is to prepare professionals and leaders, who are committed to making their communities, countries, and world a better place.

SEAS curriculum has focused on three basic values: technological and scientific competence, balance between theory and practice, consideration of the societal and holistic aspects of engineering.



Characteristics of SEAS

Current

- Small
- Students have access to traditional ABET-accredited programs, two Masters
- Limited pathways for high schools/community colleges
- Motivated faculty and diverse student body
- Limited grant funding
- Limited International partnership
- Limited marketing of our programs
- No/Limited industry/external sponsored senior projects and theses
- Limited student involvement in research
- Produce limited practical and solid graduates (FE Student Success rate)
- Ideally located to serve students and business
- Relatively lower cost compared to other metropolitan Eng. & C.S. Programs
- Good adjunct faculty base

Future

- Small **and agile**
- Students have access to a **growing number of relevant** ABET-accredited programs and **additional graduate programs**
- **Established pathway** programs link with DC v high schools all community colleges in the region
- Motivated faculty and diverse **national & international student body**
- **Active** grant funding
- **Active** International partnership (new)
- **Active** marketing
- **Active externally sponsored senior** projects and theses
- **Active** student involvement in research
- Produce reputed practical and solid graduates (FE Student Success rate)
- Ideally located to serve students and business
- Relatively lower cost compared to other metropolitan Eng. & C.S. Programs
- Good adjunct faculty base



Foundation of preeminence for SEAS

- ***Strong and timely programs***
- ***Transformative Educational Experience***
- ***Making a difference in peoples lives***
- ***Curricular emphasis on entrepreneurship, leadership, & Innovation***
- ***International Presence***
- ***Flexible Reconfiguration***



Long Standing Programs	Programs after Synergistic Realignment	Recently Eliminated Programs
<ul style="list-style-type: none"> • Bachelor's in Civil Engineering (ABET) • Bachelors in Mechanical Engineering (ABET) • Bachelors in Electrical Engineering (ABET) • Bachelors in Computer Science(ABET) • Bachelors in Information Technology • Master of Science in Electrical Engineering • Master of Science in Computer Engineering 	<ul style="list-style-type: none"> • Bachelor's in Civil Engineering (ABET) • Bachelors in Mechanical Engineering (ABET) • Bachelors in Electrical Engineering (ABET) • Bachelors in Computer Science(ABET) • Information Technology Concentration • Accelerated Bachelor/Masters programs (CS) (In approval stage) • Integrated Bachelor/Masters programs (ECE) (In approval stage) • Ph. D Program (Computer Science & Engineering – Fall 2012 approval process, Fall 2013 implementation) • Biomedical Engineering at Bachelors level (Spring '13 approval process, Fall 2013 implementation) • M.S Civil Engineering (Water & Environmental Engineering specialization)- (approval in-progress) • MS in Cyber Security & CISS Certification - approval process) 	<p>Electromechanical System Engineering Technology (BST)</p> <p>Electronics Engineering Technology(AAS)</p> <p>Construction Engineering Technology(BS T &AS)</p> <p>Aviation Engineering Technology (BS)</p> <p>Fire Science (BS)</p>

Strong and timely programs

Preeminent programs – Combination of undergraduate (ABET), Masters and very selective Ph. D. program

Re-engineering the curriculum to make it competitive, attractive and relevant at all levels. Career centered education with deep-learning component

Laboratory experience – Challenge the students with open ended design problems to explore the state-of-the-art thinking and innovation. A cluster of interconnected experiments for the students to progress through a series of discovery experiences

Combination of majors and specialization (regular and weekend)

Transform the Educational Experience of all Eng. & CS Students

SEAS will become a haven for student learning and the application of knowledge.

Project oriented, collaborative learning opportunities

(Students apply theory and practice to projects defined by outside agency such as industry: they practice critical thinking, efficient project management and communications –skills that mark a valued professional engineer)

Viable Real life Projects



National Priority Meeting Challenges

- This is the most exciting time for engineering and science in human history. The opportunity to lead the world to a more prosperous and sustainable future is before us.
- **Entrepreneurship is a key component**

National Academy of Engineering

- **STEM NSF**

National Science Foundation

Emphasis on Entrepreneurship and Leadership

Transformation of Engineering UG Experiences - Entrepreneurship component in curriculum

- Course Modification
- Projects

Changing Leadership Culture

- Faculty entrepreneurial mindset workshop
- Leadership entrepreneurial mindset workshop

Building Entrepreneurial Support for Students

- Student enterprise studio
- E.I.R
- Entrepreneur Co-ops and Internships

Excellence in student leadership at national level

Faculty leadership at the regional, national and international level.

Leadership in classroom experience

- Assessment of student learning

Making a difference in people's lives

Active in the community –Higher education for DC Community/M region

Centers of expertise in selected areas

Service learning



International Presence

Academic partnership in China, India, Europe, South America & middle east

International students in the campus

Global Alliances

Research partnership

Joint conferences

Joint research

International co-op projects for students



Enrollment and Recruiting

Awareness of the School of Engineering & Applied Sciences

Faculty excellence

Student excellence

Articulation agreements

High school/Community college programs

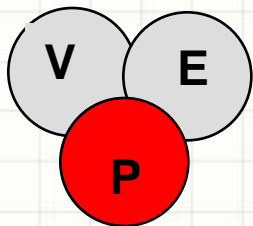
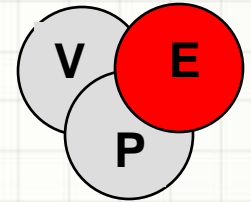
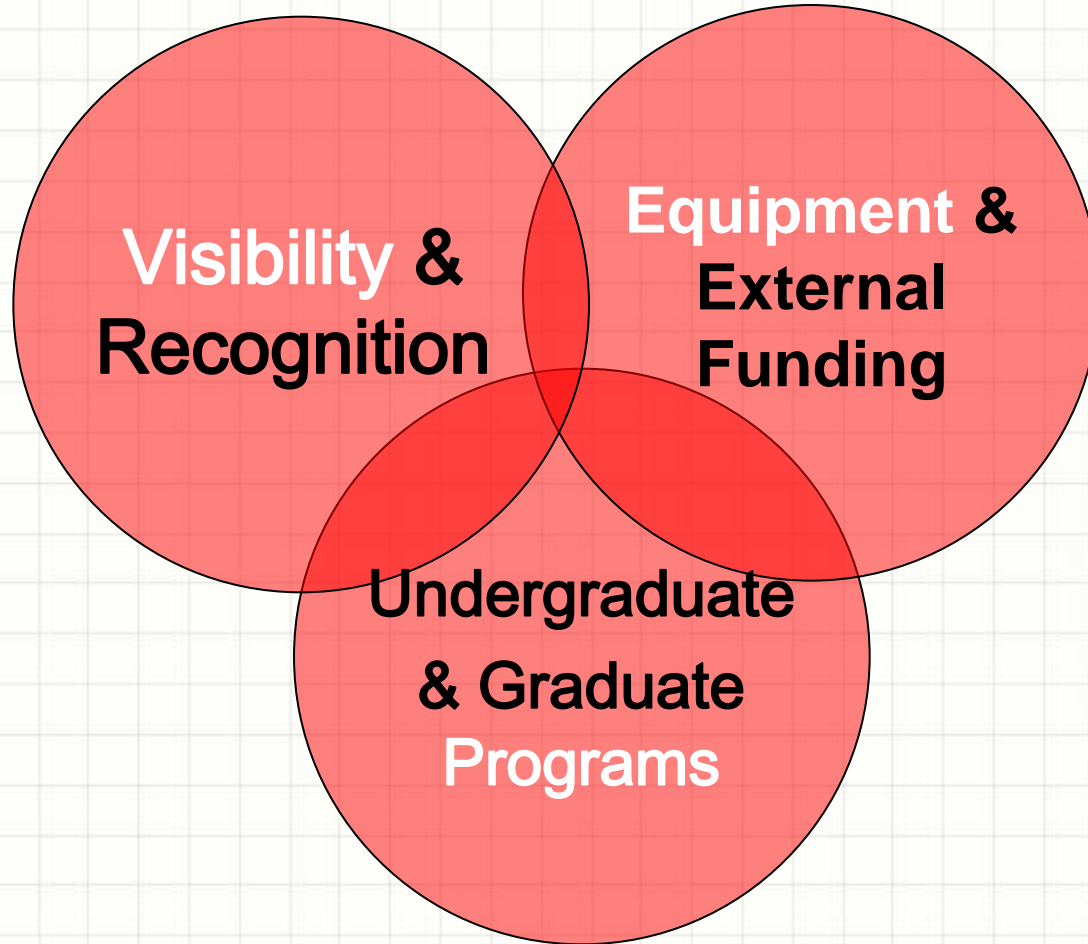
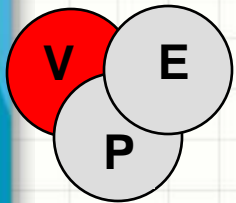
Support admission events

Student blogs

SEAS publications

Program to increase the female engineers

International recruiting



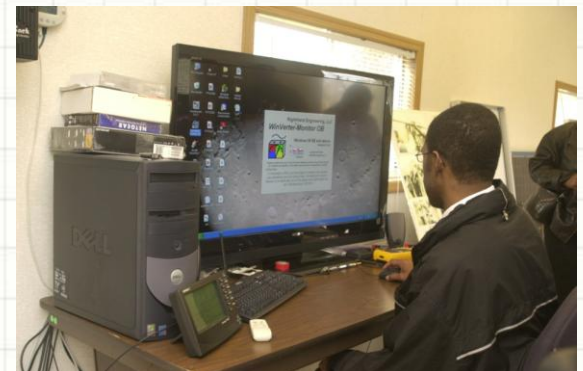
**Plan to Grow the Strengths and
address the Weaknesses**

Plan to Grow

- Curriculum- make sure that our graduates not only technically sound, but have attributes of integrity, entrepreneurship and leadership
- Joint UG and G. programs with industrial partners.
- Increase grant opportunities and other corporate funding opportunities
- Modernize and expand laboratories, Applied Research,
- Faculty resources and Chaired positions
- Graduate student assistance, Support for competition projects
- Capstone project assistance -Externally Sponsored Projects Program
- Entrepreneurial/Leadership Program
- New and Emerging Academic Programs
- International partnerships and programs
- Provide unique, inter-disciplinary programs and delivery methods
- Mobilize local alumni
- Provide life long learning programs for working professionals

Vision

**School of Engineering and Applied Sciences
aspires to achieve national recognition in the
field of Engineering and Computer Science**



ATTACHMENT 6

Information for the Testimony for the DC Council by President Rachel Petty

Information provided by

Devdas Shetty, Dean, School of Engineering and Applied Sciences

March 12, 2013

The strategic initiatives undertaken in the last year are highlighted.

The School of Engineering and Applied Sciences, UDC has nationally accredited programs by ABET (Accreditation Board for Engineering and Technology, the highest body in engineering education) in the disciplines of Civil Engineering, Mechanical Engineering, Electrical and Computer Engineering, and Computer Science. At this moment, these programs have been accredited for 6 years till 2015. The next accreditation visit will be in 2014.

UDC has one of the oldest accreditation (since 1970' and 80s) among the only thirteen HBCU's that have accredited engineering programs. This distinction is seen in the branch of Computer Science also. The District of Columbia has only three ABET accredited Computer Science programs out of the total nine Computer Science programs in DC. Besides, UDC, the other institutions are George Washington University and Howard University.

Synergistic Realignment: In the last 3 to 5 years, SEAS has examined its programs and terminated low-enrollment, low demand engineering technology programs. The terminated programs include Electromechanical System Engineering, Electronics Engineering technology, Construction Engineering Technology, Aviation Engineering Technology. As a result of right sizing effort, the Department of Computer Science has initiated a concentration in Information Technology within the BS program in Computer Science. SEAS has also initiated "Accelerated Bachelor/Masters Programs" in Computer Science, Electrical, Mechanical and Civil Engineering. These programs have been initiated so that student can graduate with Bachelors and Master's Degree within five years. Additional focused programs in computer science, environmental engineering, alternate energy, biomedical engineering, have been planned.

Student Learning Initiatives: Major efforts are in place to make SEAS, a place for student learning and application of knowledge. This is done by laboratory reorganization, creation of interdisciplinary learning areas, creating project oriented courses, application of theory and practice to projects defined by industry. The students graduating will have experiential and entrepreneurial component in the curriculum before they graduate from UDC. We are introducing externally sponsored senior projects into the curriculum. The efforts since Fall 2012, have resulted in getting successful projects from Zeiss Corporation, National Institute of Standard and Technology, Lockheed Martin and Albert Einstein Hospital, NY etc.

Innovative Programs: SEAS has established a highly selective National Security Agency (NSA) Information Assurance Certification and, Senior System Manager NSA Certification. The Department of Computer Science and Information Technology has also applied for recognition as a National Center of Excellence in this area.

Research Grants Received by SEAS: Research grants are on increase in all the engineering disciplines. Total funds received in the last 2 years: **2.0 Million (\$2,007,952)**. These are peer-

reviewed prestigious grants from NSF (National Science Foundation-3), Air force Office of Sponsored Research, Navy Research Laboratory, Department of Energy, Dept. of Education etc. We are working with Howard University on a NSF grant to stimulate interest in STEM education. During the last six months, SEAS faculty have submitted new grant applications worth **\$4.2Million**.

Scholarly Publications: The faculty of the SEAS comprises a cadre of dedicated, responsive professionals who have broad backgrounds and who remain active in their disciplines. The work of the faculty is internationally recognized. SEAS faculty had been very active in research addressing the national needs in engineering, technology and computer science. In the last 18 months, SEAS faculty members have contributed about **50 peer-reviewed** Journal articles, national/international conferences, books, book-chapters and key-note presentations.

Community Colleges: SEAS has created a pathway-model of articulation agreements with UDC Community College as well as with several community colleges in MD and VA. An agreement with North Virginia Community College (NOVA) is already in place. Similar agreements with Montgomery College, PGCC and other high schools are being worked out.

Academic Partnerships: International partnerships with two Universities in China and India were established for graduate students at the Masters level in Electrical Engineering and Masters in Computer Science.

Additional Contribution to DC Community: The freshman students are exposed to “Engineering First” – an introductory course that makes students appreciate engineering by working in small teams and involve with community in the form of DC relevant projects. SEAS faculty have been organizing week-end tutorial sessions for DC area engineers, so that they can take the Professional Engineer (PE)/Fundamentals of Engineering Examination and get licensed. The success rate in this challenging examinations is high (90%) because of these sessions. SEAS has also been involved in seeking additional funds for veteran’s training. SEAS is making rapid progress in establishing expertise in nanotechnology and nano-materials. With the assistance of \$350,000 grants two faculty members Dr. Tyagi and Dr. Klein had been establishing research nanoscale electronic devices. Dr. Klein’s is fully funded by NIST and Carl Zeiss Microscopy program has helped undergraduate mechanical engineering student to intern at NIST to study biological imaging and precision measurement patterns using helium ion microscopy. There are only 10 such precision instruments in the world.

Growing Market: Engineering programs are seeing a growth in the job market. Forbes Magazine rates the Washington-Arlington-Alexandria as the number two metro area in the country for STEM jobs. Recent Washington Post.com rates the Washington DC area as the top metro in the country for engineering jobs. The demand in 2012 had been up from 22 to 41 % with examples of 41% increase for civil engineers, 22% for electrical engineers and 38% for environmental engineers from 2011. Mayor Vincent C. Gray’s Economic Development Strategy report points out the need to double the technology jobs in the District of Columbia in five years. UDCs School of Engineering and Applied Sciences has the infrastructure and resources to contribute to the development of the District of Columbia and ability to address these challenges.

ATTACHMENT 7



SCHOOL OF ENGINEERING AND APPLIED SCIENCES SPACE UTILIZATION PLAN

Building	Room #	Area (Sq. ft)	On Going Activity	Programs Served	# of Students Served in Class and Research	Immediate & Future Use
32	102	1500	Senior Project Lab	Electrical Eng.ELEC495/496 Fall and Spring	High	Same as current use
32	101E	1000	Computer Science Teaching Lab	CSIT Dept. Computer Science II - 21647 - APCT 232 - 1, Computer Science II Lab - 21651 - APCT 234 - 1, Wireless LAN LEC - 21656 - CMOP 231 - 0, Wireless LAN LAB - 21657 - CMOP 232 - 0, Intro Web Page Dev & HTML Lec - 21654 - CMOP 235 - 0, Intro Web Page Dev & HTML Lab - 21655 - CMOP 236 - 0	High	Same as current use
32	101W	750	Research Lab	CSIT Dept.Scientific Computing and Informatics Lab	High	Same as current use
32	201A	500	Research Lab	CSIT Dept.Network & Security Systems	High	Same as current use
32	202A	500	Research Lab	CSIT Dept. Robotics	High	Same as current use
32	201B	750	Power Systems lab: High Voltage AC Power, Loading, AC Control, DC Control, Distribution And Supply	Electrical Eng.used in ELEC 463; ELEC 461/463 Unique Power lab requiring 3-phase supply in delta and Y form. Includes a power and load panel including balanced loads	High	Same as current use

Building	Room #	Area (Sq. ft)	On Going Activity	Programs Served	# of Students Served in Class and Research	Immediate & Future Use
32	202B	900	Computer Science Teaching Lab	CSIT Dept.Intro Programming - 21641 - APCT 110 - 0, Intro Programming Lab - 21642 - APCT 111 - 0, Foundations of Computing - 21643 - APCT 115 - 0, Computer Science I - 21645 - APCT 231 - 1, Computer Science I Lab - 21649 - APCT 233 - 1, Scientific Programming - 21653 - CSCI 135 - 0, Special Topics in CSIT - 21639 - CSCI 490 - 0	High	Same as current use
32	206	900	Control Systems Lab	Electrical Eng. Includes also Mechanical Engineering. ELEC470/477 Spring	High	Same as current use
32	A01	1200	Communications Lab	Electrical Eng.used in ELEC 467/476 Fall and ELEC 469/473 Spring	High	Same as current use
32	A02	1200	Electrical Circuits I & II Lab/Computer Org I Lab	Electrical Engineering.used in ELEC 223; ELEC 224; ELEC 353 and ELEC 354	High	Same as Ccurrent use
32	A03	1200	VHDL Lab/Advanced Digital Systems Lab	Electrical Engineering.used in ELEC 480/483 (Fall); ELEC 478/479 (Fall)	High	Same as current use
32	A04	1200	EET Lab	MSEE Graduate Research Hub	MSEE Graduate Program	Grad Students Office Space

Building	Room #	Area (Sq. ft)	On Going Activity	Programs Served	# of Students Served in Class and Research	Immediate & Future Use
32	C05	1200	Machine Shop	SEAS/Univ	High	Machine Shop
32	C05B	600	Microscopy and Device Characterization Lab	Microscopy and Device Characterization Lab		
42	108	900	Computer Science Teaching Lab	CSIT Dept. Data Structures - 21632 - CSCI 241 - 0, Database Administration - 21631 - CSCI 343 - 0, Information Security - 21629 - CSCI 353 - 0, Intro to Compiler Desgn - 22250 - CSCI 424 - 0, Analysis Of Algorithms - 22249 - CSCI 434 - 0, Secure Software Eng - 22251 - CSCI 453 - 0, Senior Seminar - 21658 - CSCI 495 - 0, Senior Project I - 21671 - CSCI 498 - 0	High	Same as current use
42	111	1800	Water & Environmental Modeling and Simulation Lab, Renewal Energy & Mechanical Eng. Lab	Civil Eng. /Mech.Eng.Energy Lab Environmental Modeling and Simulation Lab, CE Senior Project ME Senior Project STEM Research	High	Same as current use

Building	Room #	Area (Sq. ft)	On Going Activity	Programs Served	# of Students Served in Class and Research	Immediate & Future Use
42	114A	456	Arch. /Civil Eng./Mech.Eng	Arch. /Civil Eng./Mech.Eng		
42	114B	900	Civil Eng./Mech.Eng	Civil Eng./Mech.Eng	Currently on loan to School of Business, Should be available	
42	113B	900	Computer Science Teaching Lab	CSIT Dept. Computer Science I - 21644 - APCT 231 - 0, Computer Science II - 21646 - APCT 232 - 0, Computer Science I Lab - 21648 - APCT 233 - 0, Computer Science II Lab - 21650 - APCT 234 - 0, Network Security - 22246 - CSCI 352 - 0, Operating Systems - 21633 - CSCI 412 - 0, Digital Forensics - 21636 - CSCI 441 - 0, Database Systems Design - 21637 - CSCI 452 - 0	High	see future renovation sheet

Building	Room #	Area (Sq. ft)	On Going Activity	Programs Served	# of Students Served in Class and Research	Immediate & Future Use
42	C08	984	Geotechnical Engineering, Mechanics of Materials	Civil Engineering, Mechanical Engineering. Geotechnical Lab CE Material Lab Mechanics of Materilas Lab	High	Same as current use & future Masters Degree Program
43	C09	600	Civil Engineers Materials Lab	Civil Engineering. CE Material Lab	High	Same as current use
42	C10A	288	Fluid Lab	Civil Engineering & Mechanical Engineering. Hydraulics Lab Fluid Mechanics Lab	High	Same as current use & future Masters Degree Program
42	C10	960	Under Water Aquistic Research Lab, Nano Materials Manufacturing	Electrical Eng., Mechanical Engineering. staging area for CE and ME labs and used also for DoD grant support (Underwater accoustic resonance) Fall and Spring	Low	Same as current use
42	C11	961	CE Materials, Asphalt & asphalt mix, Structural Lab, Nano Materials Manufacturing	Civil Engineering & Materials Testing. Structural Lab, CE Materials Lab, and Nano Materials Manufacturing	High	Same as current use & future Masters Degree Program
42	C-13	300	CE Materials, Concrete	Civil Engineering & Materials Testing	Medium	Same as current use

Building	Room #	Area (Sq. ft)	On Going Activity	Programs Served	# of Students Served in Class and Research	Immediate & Future Use
New Space	Laboratory Space	1000	No	Future Masters Degree Program	Civil & Mech Engineering	Computer & Simulation Laboratory
New Space	Office Space	800	N/A	Future Masters Degree Program	Civil & Mech Engineering	Office Space for Graduate Research Assistants
New Space	BioEng Lab Space	1800	N/A	BioEngineering	Civil & Mech Engineering	Research/Instructional
New Space	RE Program	1800	N/A	RE Eng	Civil & Mech	Instructional/Research
New Space	Common Computational Lab for Engineering Students	1800	N/A	Civil, Mechanical, Electrical and Bio Engineering	Civil, Electrical, Bio & Mech	Instructional

ATTACHMENT 8

BUILDING 32									
FLR	NSF	GSF	DEPARTMENTS						
2	7,200	12,578	Architecture Research Institute				CAUSES – School of Architecture Studios (Under Renovation)		
1	7,400	12,578	CAUSES – Architecture Faculty Offices				SEAS – Computer Science		
A	5,100	12,578	SEAS – Electrical/Computer Engineering						
B	7,000	12,578	Academic Advising		CAS – Mathematics Department				
C	7,600	12,578	Institute of Gerontology		SEAS – Civil/Mechanical Laboratories				
Building 32			Stacking Key						
			CAUSES	SBPA	DACSL	CAS	UDC-CC	SEAS	ADM IN

BUILDING 42									
FLR	NSF	GSF	DEPARTMENTS						
2	10,500	21,826	SEAS – Dean’s & Civil/Mech. Offices			Chemistry Lab	P.A.T.H.S. Office	CARUP-OSP-GRAD	EPA Office
1	10,300	19,050	SEAS – CS/Engineering Classrooms		SEAS – CS/Engineering Offices		Arch. Comp Lab	EPA Laboratory	SEAS Lab
A	8,700	16,848	CAUSES - Architecture Studios		Lecture Hall	CAS – Visual and Performing Arts/Communications Offices			
B	9,400	19,012	CAS – Visual and Performing Arts/Communications Classrooms						
C	6,200	14,351	SEAS – Civil/Mechanical Engineering Labs						
Building 42			Stacking Key						
			CAUSES	SBPA	DACSL	CAS	UDC-CC	SEAS	ADM IN