Five-Year Review Planning Goals

5-Year Plan:

1. Summary of program changes: The Firs year of implemen a ion of semes er !ase" curriculum was successful. #$ ensive a"vising main change is he ransfer o a semes er-!ase" program. The aim of a"vising was no o "elay any s u"en %s gra"ua ion.
2. Facul y: ' e hire" a enure- rac(facul y o su!s i u e for) owar" *ei who lef he year !efore. +r. , le$ Sumarono s ar e" his Fall &-1..) e comes o us wi h years of e$perience wi h /0T#* an" 1/S1 2 corpora ions.
3. Research: The 1ompu er #ngineering facul y are ac ive in research an" have !een successful in pu!lishing heir wor(. Grow h in research is a goal ha he engineering facul y are aggressively pursuing.
4. *a!ora ory +evelopmen : #ngineering is !eing alloca e" space for facul y research an" eaching in ScS &15. The space is !eing u ili5e" for he "evelopmen of an elec ronics la!ora ory an" o her compu er engineering research space re6uiremen . Two compu er engineering facul y an" facul y from compu er science wor(in his la!ora ory.
5. #6uipmen : Through , &#& annual fun"ing an" /T "epar men resources we are planning o upgra"e he compu er engineering la!ora ory Sc0 &37.
8. Grow h: The 1ompu er #ngineering program is he fas es growing un"ergra"ua e program

s u"en s. Three enure- rac(facul y‹ Roger +oering‹ >ames Tan"on‹ an" , le$ Sumarsono suppor his program.

!& %& & : ' e have ransforme" he curriculum in ransi ion o semes er offerings. The ransforme" curriculum sa isfies accre"i a ion re6uiremen s an" is in line wi h he nee"s of i s cons i uen s.

$& $ # The num!er of s u"en s has increase" from 1. in &-1& o 15. in he fall of &-1;.

%& $'# Three enure- rac(facul y serve he 1ompu er #ngineering program.

$ ((# ' e have wo full ime s aff for he School of #ngineering‹ =rs. *isa)olms rom‹ #ngineering , "visor an" a la!ora ory echnician‹ =r. *inh 0guyen ' e also have a par ime , S1 who is wi h engineering for ; hours a wee(.

& % # The ScS 1&5 research la!ora ory is func ional an" e6uippe" wi h "rones an" o her research e6uipmen . +r. >ames Tan"on an" , le$ Sumarsono con"uc research in ha la!.

$# 1ompu er engineering is an accre"i e" program. , s par of he accre"i a ion process‹ a sys ema ic assessmen an" evalua ion plan has !een in place for four years. The "e ails of assessmen ac ivi ies are given !elow.

, . &$%) *

1. , n a!ili y o i"en ify‹ formula e‹ an" solve comple$ engineering pro!lems !y applying principles of engineering‹ science‹ an" ma hema ics. ?/* 2 1@
&. , n a!ili y o apply engineering "esign o pro"uce solu ions ha mee specifie" nee"s wi h consi"era ion of pu!lic heal h‹ safe y‹ an" welfare‹ as well as glo!al‹ cul ural‹ social‹ environmen al‹

B. &$%) *

List the PLO(s) assessed. Provide a brief backgro !d o! "o r #rogra$%s histor" of assessi!g the PLO(s) (e.g.& a!! a"'% first ti$e& #art of other assess$e!ts& etc.)

The program learning ou comes assesse" for &-1;-&-1. are P*2s 3 an" 5. The P*2s were assesse" !y using resul s from group pro9ec s or presen a ions across hree classes. Since he :S in 1ompu er #ngineering is a new program ha officially !egan in &-13< his year is par of he secon" 5-year cycle of assessmen . The hree classes were 1S 3&1?1ompu er , rchi ec ure 1@< 1=P# 4.&?Senior +esign@< an" 1=P# 4.3?Senior 1aps one@. 'hile our 5-year assessmen plan has eleven program learning ou comes< we elec e" o change hem wi h he conversion o he semes er sys em. The ol" learning ou comes wi h he new learning ou comes ?in re"@ ha hey map o are lis e" here:

#$plana ion of P*2s:

P*2 1: ,!ili y o apply (nowle"ge of ma hema ics< science< an" engineering. P*21

P*2 &: ,!ili y o "esign an" con"uc e$perimen s< as well as o analy5e an" in erpre "a a. P*28

P*2 3: ,!ili y o "esign a sys em< componen < or process o mee "esire" nee"s wi hin realis ic cons rain s such as economic< environmen al< social< poli ical< e hical< heal h an" safe y< manufac ura!ili y< an" sus aina!ili y. P*2&

P*2 4: ,!ili y o func ion on mul i"isciplinary eams. P*25

P*2 5: ,!ili y o i"en ify< formula e< an" solve engineering pro!lems. P*21

P*2 8: Bn"ers an"ing of professional an" e hical responsi!ili y. P*24

P*2 7: ,!ili y o communica e effec ively. P*23

P*2 ;: :roa" e"uca ion necessary o un"ers an" he impac of engineering solu ions in a glo!al< economic< environmen al< an" socie al con e$. P*24

P*2 .: Recogni ion of he nee" for< an" an a!ili y o engage in< life-long learning. P*27

P*2 1-: Cnowle"ge of con emporary issues. P*2&

P*2 11: ,!ili y o use he echni6ues< s(ills< an" mo"ern engineering ools necessary for engineering prac ice. P*28

1. & ' ($ %

($$ari)e "o r assess$e!t #rocess brief'" si!g the fo'o*i!g s b-headi!gs.

$ & $) *# (+!c' de if !e* or o'd i!str $e!t& ho* deve'o#ed& descri#tio! of co!te!t)

The ins rumen s use" o assess P*2%s were pu!lic presen a ions an" group pro9ec s. Since professors use" "ifferen gra"ing scales< each 6ues ion normali5e" o a ra ing scale 1-4 wi h 1 !eing he lowes score an" 4 !eing he highes score. Dues ions focuse" on engineering "a a analysis an" sys em "esign an" syn hesis.

+ % &

S u"en s in "ifferen classes were assesse" !ase" on specific course ma erials in he compu er engineering "iscipline. The (nowle"ge o !e successful in hese courses is cumula ive where 1S 3&1 ma erial is prac ice level‹ while 1 = P# 4.& an" 1 = P# 4.3 are mas ery level. Pro!lems were chosen !y he proc oring professor o !e e$emplary of he ma erial in each course.

+ !" %$ $ %

The courses use" for assessmen are all re6uire" courses in he compu er engineering "iscipline. 1orrec comple ion of each 6ues ion re6uires essen ial (nowle"ge for comple ion o he "egree program. The selec ion was "one in consul a ion !e ween he in"ivi"ual proc oring professors‹ he assessmen coor"ina or‹ an" he "epar men chair for compu er engineering.

$! %$ # (i!c′ de *he!& *ho& a!d ho* co′′ected)

Pro!lems were collec e" !y he responsi!le "a a assessmen coor"ina or. Raw "a a scores were normali5e" across all sample pro!lems o he 1-4 scale for correc ness. 0e$‹ he scores were u ili5e" o facili a e comparisons !e ween /n ro"uc ory‹ Prac ice‹ an" =as ery levels.

$ '

1S 3&1 ? augh !y 1 = P# facul y@
/ em: /mplemen an ari hme ic logic uni wi h your par ner.
, verage score ?ou of 4@: &..7 ?31 su!missions@
Score of 1: & Score of &: . Score of 3: ; Score of 4: 1&
Score of 3 or higher: 84.5E

1 = P# 4.&
/ em: Pro9ec presen a ion F gra"e" !y con en ‹ organi5a ion‹ an" "elivery.
, verage score ?ou of 4@: 3.8 ?15 su!missions@
Score of 1: 1 Score of &: - Score of 3: 3 Score of 4: 11
Score of 3 or higher: .3.3E

1 = P# 4.3
/ em: Final group pro9ec F gra"e" on in egra ion of mem!er "esigne" componen s.
, verage score ?ou of 4@: 3.3 ?14 su!missions@
Score of 1: - Score of &: 1 Score of 3: ; Score of 4: 5
Score of 3 or higher: .&..E

Ru!ric for P*23 ?4.&@:
?1@ Presen a ion gives vague specifica ion of pro9ec ‹ leng h oo shor ‹ im!alance" "elivery
?&@ Presen a ion con en missing a ma9or componen ‹ leng h is shor ‹ organi5a ion issues
?3@ Presen a ion organi5a ion has minor "iscon inui ies‹ con en misses only minor poin s‹ nee" o prac ice "elivery
?4@ Presen a ion organi5a ion is coheren ‹ con en is comple ely specifie"‹ goo" "elivery

Ru!ric for P*25 ?3&1 an" 4.3@:
?1@ 1orrec ly specifie" less han &5E of all componen s an" connec ions in circui "esigns
?&@ 1orrec ly specifie" &5E or more of all componen s an" connec ions in circui "esigns
?3@ 1orrec ly specifie" 5-E or more of all componen s an" connec ions in circui "esigns
?4@ 1orrec ly specifie" 75E or more of all componen s an" connec ions in circui "esigns

+. & ' ($ & $
*($ $ari)e "o r assess $e !t res 'ts brief'" si !g the fo'"o *i !g s b-headi !gs.*

#

' i h respec o P*25: S u"en s in 1S 3&1 an" 1=P# 4.3 wor(e" oge her o comple e a group pro9ec . ' hile s u"en s in 1S 3&1 were lef o hemselves wi h respec o !rea(ing "own group responsi!ili ies‹ s u"en s in 1=P# 4.3 were gui"e" o speciali5e an" gra"e" !ase" on he 6uali y of heir in"ivi"ual componen s. , s s u"en s move" from prac ice level o mas ery level‹ he level of un"ers an"ing increase" significan ly wi h an average pro9ec score of &..7 o 3.3. The !i-mo"el "is ri!u ion of un"ers an"ing6no -un"ers an"ing which was a pro!lem

,$ $ +) * (! $" +# (. eco $ $e !datio !s to address fi !di !gs& ho * / *he !)

Professors in compu er engineering shoul" convene o prepare he assessmen 6ues ions for each class. , ""i ionally‹ crea ing 6ues ions ha es in ro"uc ory‹ prac ice‹ an" mas ery levels‹ shoul" !e consi"ere".) owever‹ he assessmen 6ues ions shoul" !e !alance" in ha hey can !e solve" a he en" of a final e$am.

$" (%$ #

The sylla!i an" assessmen 6ues ions use" for 1 , PR assessmen an" , : #T assessmen shoul" !e co-crea e" o minimi5e he impac of program assessmen o he s u"en learning e$perience.

#. $ (,$

($ $ari)e "o r assess $e !t #'a !s for the !e0t "ear& i !c' di !g the PLO(s) "o #'a ! to assess& a !" revisio !s to the #rogra $ assess $e !t #'a ! #rese !ted i ! "o r 'ast five-"ear #'a ! se'f-st d"& a !d a !" other re'eva !t i !for $atio !.

' e plan o con inue assessmen wi h mi" erm e$am 6ues ions an" final e$am 6ues ions where feasi!le for in"ivi"ual wor(for P* 2 S 1‹&‹4‹8‹ an" 7. P* 2 s 3 an" 5 re6uire assessmen of group wor(an" an a!ili y o communica e respec ively. For P* 2 3‹ group pro9ec gra"es an" peer review 6ues ionnaires will !e use" for assessmen . For P* 2 5‹ wri en an" oral assignmen s will !e use" for assessmen . The ne$ se of P* 2 s o assess ?on he new se @ are P* 2 1‹ P* 2 4‹ an" P* 2 7. , ll P* 2 s will !e assesse" !y ei her mi" erm or final e$am 6ues ions.

///. ! - ! .

%& (- (%$

The following a!le is enrollmen "a a e$ rac e" from Pioneer +a a ' arehouse. This "a a in"ica es ha he 1ompu er #ngineering enrollmen is increasing a a cons an ra e. The curren "a a as of Fall of &-1; s an"s a 15.. The curren facul y of 1ompu er #ngineering areJ Roger +oering >ames Tan"on an" , le$ Sumarsono . The program is accre"i e" !y , : #T un il he Fall of &-&&.

	!	%"	! +&$	& $	$ $		
.& $ /01/	$		/2	13	45	63	0
.& $ /014	$		52	72	28	156	0
.& $ /012	$		104	63	83	/68	0
.& $ /017	$		140	108	104	/1/	0