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.
&. 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<

1/À<°è& "#

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"ingGno -un"ers an"ing which was a pro!lem when reviewing P*2& las year "i" no appear wi h respec o P*25. Pe"agogy "i" no change.

' i h respec o P*23: S u"en s "i" an e$cep ional 9o! presen ing heir ma erial for he mos par in 1 =P# 4.&. ' hile he class has effec ive communica ion as a learning ou come‹ s u"en s are force" !y heir pro9ec assignmen s o wri e‹ re-wri e‹ an" refine heir pro9ec specifica ions a leas four imes !efore hey !uil" he pro9ec . This forces he s u"en s o hin(very har" a!ou heir opic an" !ecome specialis s in heir wor(.

% $ (+ $# (,ha!ges i! co rse co!te!t& co rse se- e!ce& st de!t advisi!g)

1onsis en sylla!i an" sample 6ues ions shoul" !e "evelope" !y he "epar men for each course o uniformly measure he P*2%s across courses ha may !e run !y mul iple professors. ' hile his may encourage professors o H each o he es I o some "egree‹ if he assessmen covers only he core ma erial‹ hen professors will have wi"er la i u"e o each he ma erial as hey see fi .

,$ $ +) *(! $" +# (.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*2S 1<&<4<8< an" 7. P*2s 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*2s o assess ?on he new se @ are P*2 1< P*2 4< an" P*2 7. , ll P*2s 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