

NAME: _____
Contact No: _____Date: _____
MATRIC NUMBER: _____

FFG Checklist for EE of AY2014 intake

Direct Entry Poly students of AY2014 intake:

	HAVE I FULFILLED THE FOLLOWING REQUIREMENTS ?	No. of MCs	Tick if fulfilled
1.	University Level Requirements (ULR):	20	
	<p>(i) GEM/SS/ULR Breadth: Students are required to read 20 MCs of the ULR consisting of:</p> <ul style="list-style-type: none"> ▪ 2 x *GEM modules (8 MCs) ▪ 1 SS (4 MCs) ▪ 2 ** ULR Breadth outside student's Faculty (8 MCs) <p>Note: * At least 1 GEM module must be from Subject Group B: Humanities and Social Science. Student must take GEK1549 Critical Thinking and Writing (compulsory) – under GEM Subject Group A: Science & Technology to fulfil ULR, and ES2331 to fulfil Faculty Requirement.</p> <p>Singapore Studies (SS) module – SSA2204 or SSA2211 (recommended)</p> <p>Recommended ULR Breadth outside student's faculty: BSP1004X / BSP1005 / ACC1002X / MKT1003X / MNO1001X / MNO3301 / DSC2006 / ES2007S / EC1301 / SC1101E. Breadth can also be used to meet UEM requirements. See section 2(iii) below). Other modules offered as ULR Breadth (module type code U9) by other faculties can also be taken by students to fulfil their ULR Breadth requirements.</p>		
	<p>(ii) BUSINESS requirements Students are strongly encouraged to read at least 1 business/management module from the School of Business (SoB) or the Engineering Technology Management Division (ETM). Students may use this business module to meet ULR Breadth outside student's faculty or UEM requirements (see section 2(iii) below).</p>		
	<p>(iii) Minor Prgs A student may use up to 20 MCs to satisfy their UEM (see section 2(ii) below) and another 8 MCs for their ULR Breadth outside student's faculty. For more info, please refer to http://www.eng.nus.edu.sg/ugrad/SP_minors.html</p>		
	<p>(iv) University Scholars Prg (USP) For USP students, please refer to http://www.eng.nus.edu.sg/ugrad/SP_usp.html</p>		
	<p>(v) PC1431 Physics IE & PC1432 Physics IIE (4 MCs each) will count as ULR Breadths for those common engineering students who are <u>streamed to EE in Year 2.</u></p>		
2.	Unrestricted Elective Modules (UEM):	16	
	<p>To be acquired through:</p> <p>(i) Enhancement Programmes</p> <ul style="list-style-type: none"> ▪ EG1603, EG2603A, EG2603B Technopreneurship & Incubation Prg (TIP) – 2/2/8 MCs respectively ▪ EG2604 Innovation Prg (IP) – 4 MCs ▪ EG2605 Undergraduate Research Opportunities Prg (UROP) – 4 MCs ▪ EG2606A/B Independent Work Prg (IWP) – 2/4 MCs respectively <p>MCs of each prg can be obtained <u>only once</u>. Students can do <u>either</u> IAP or VIP, but <u>not</u> both. For more info, please refer to http://www.eng.nus.edu.sg/undergrad/epmc/ep.html</p>		
	<p>(ii) BUSINESS requirements Students are strongly encouraged to read at least 1 business/management module from the School of Business (SoB) or the Engineering Technology Management Division (ETM). . Students may use this business module to meet ULR Breadth outside student's faculty or UEM requirements (see section 1(ii) above).</p>		
	<p>(iii) Recommended modules Recommended ULR Breadth outside student's faculty (see section 1(i) above) BSP1004X / BSP1005 / ACC1002X / MKT1003X / MNO1001X / MNO3301 / DSC2006 / ES2007S / EC1301 / SC1101E. . (These recommended ULR Breadth</p>		

	<p>modules can also be used to meet UEM requirements).</p> <p>Other modules offered as UEM (module type code 27) by other faculties can also be taken by students to fulfil their UEM requirements.</p>		
	<p>(iv) Minor Prgs A student may use up to 20 MCs to satisfy their UEM and another 8 MCs for their ULR Breadth outside student's faculty (see section 1(iii) above). For more info, pls refer to http://www.eng.nus.edu.sg/ugrad/SP_minors.html</p>		
	<p>(v) ECE Technical Electives (for students who wish to achieve greater specialization in ECE fields)</p>		
	<p>(vi) University Scholars Prg (USP) For more info, pls refer to http://www.eng.nus.edu.sg/ugrad/SP_usp.html</p>		
	<p>(vii) NUS Overseas Colleges (NOC) For more info, pls refer to http://www.overseas.nus.edu.sg/noc/</p>		
	<p>(viii) EG1109 Statics & Mechanics of Materials (4 MCs) & MLE1101 Introductory Materials Science & Engineering (4 MCs) will count as UEMs for those common engineering students (of AY2010 intake) who are <u>streamed to EE in Year 2</u>.</p>		
3.	Programme Requirements		124
3.1	<p>Faculty Requirements: Sub-total – 10 MCs http://www.eng.nus.edu.sg/ugrad/MS_facultyrequirements2014.html</p>		
		(4 MCs)	
	<p>(i) ES2331 Communicating Engineering (module type code 01) (and GEK1549 Critical Thinking and Writing under ULR</p> <p><u>OR</u></p> <p>(ii) ES1501_ / ES1601_ (module type code 01) : Students who read ES1501_ / ES1601_ need not read GEK1549 & ES2331. They need to take a module to fulfil GEM A requirement separately.</p> <p><u>OR</u></p> <p>(iii) For students residing in U-Town: IEM1201_ (in lieu of Critical Thinking & writing requirement, module type code 27/U9) (and IEM2201_ [with pre-req of IEM1201_] in lieu of ES2331, module type code 01) Students have to take a module to fulfil GEM A requirement separately.</p>		
	EG2401 Engineering Professionalism	(3 MCs)	
	HR2002 Understanding Human Relations in the New Economy	(3 MCs)	
3.2	Major Requirements: Sub-total –114 MCs		
	<u>YEAR 1 MODULES:</u>		
	MA1505 Mathematics I	(4 MCs)	
	MA1506 Mathematics II	(4 MCs)	
	CS1010E Programming Methodology	(4 MCs)	
	EE1001 Emerging Technologies in Electrical Engineering	(4 MCs)	
	EE1002 Introduction to Circuits and Systems	(4 MCs)	
	< EG1108 Electrical Engineering (3 MCs) will be mapped to EE1002 for those common engineering students who are streamed to EE in Year 2. See * note 1 below. >		
	EE1003 Introduction to Signals and Communications	(4 MCs)	
	<u>ECE CORE MODULES:</u>		
	EE2020 Digital Fundamentals	(5 MCs)	
	EE2021 Devices and Circuits	(4 MCs)	
	EE2025 Power Electronics	(4 MCs)	
	EE2023 Signals and Systems	(4 MCs)	
	EE2024 Programming for Computer Interfaces	(5 MCs)	

EE2031 Circuits & Systems Design Lab	(3 MCs)		
EE2032 Signals & Communications Design Lab	(3 MCs)		
EE2011 Engineering Electromagnetics	(4 MCs)		
EE2012 Analytical Methods in ECE	(4 MCs)		
PC2232 Physics for Electrical Engineers	(4 MCs)		
<u>ECE CORE – PROJECTS:</u>			
EE3031 Innovation & Enterprise I	(4 MCs)		
EE4001 B.Eng. Dissertation	(12 MCs)		
<u>Industrial Attachment (IA):</u>			
EG3601 Industrial Attachment Programme	(12 MCs)		
<p>Note: Poly students do not need to go on IA. In lieu of the 12 MC for IA, poly students must fulfil bridging modules and technical elective(s):</p> <ul style="list-style-type: none"> ▪ PC1222 + MA1301 + 1 technical outer core breadth elective (4 MCs) / * EG3602 VIP (6 MCs) <p>In lieu of MA1301, poly students take 1 technical breadth/depth elective from any concentration if they do not need to take MA1301.</p> <p>Note: PC1222 and MA1301 should be of module type code 01, not U9, not 27.</p>			
<u>ECE TECHNICAL ELECTIVES:</u>			
<p>Minimum total of at least 22 MCs of Technical electives as follows: NOTE: at least 16 MCs of electives must be EExxxx.</p>			
(a) Breadth (B) requirements			
- at least 2 technical outer core breadth electives from 2 different outer core concentrations			
(b) Depth (D) requirements			
- at least 2 technical depth electives from any concentration			
(c) ♦ TWO technical electives consisting: At least 1 technical outer core breadth elective and 1 technical breadth/depth elective from any concentration);			
<u>or</u>			
♦ EE3032 (6 MCs) ;			
<u>or</u>			
♦ 1 technical Breadth/Depth Tech elective from any concentration			
- if already taken * EG3602 VIP (6 MCs) in lieu of IA			
<p>Note: 1. All technical electives must add up to at least 22 MCs. If not, student has to take more technical electives to make up to 22 MCs.</p> <p>2. E.g 1: 4B + 2D : Student takes – EE3131C and EE3408C to fulfil the 2B from 2 different outer core concentrations ; EE4210 and EE4306 to fulfil 2D from any conc ; EE3204 to fulfil the 1B/D from any concentration. EE3331C to add up to at least 22 MCs;</p> <p>E.g 2: 3B + 3D : Student takes – EE3431C and EE3731C from 2 different outer core concentrations ; EE4101 and EE4431 to fulfil 2D from any conc ; EE4218 to fulfil the 1B/D. EE3104C to add up to at least 22 MCs</p> <p>3. The MCs of ME4245 and CG3207 are counted towards EExxxx MCs.</p> <p>4. A technical outer core breadth elective is EExxxxC and it can be also considered as a technical breadth elective.</p>			

	<p>A technical breadth elective is EExxxx but it is not a technical outer core breadth elective.</p> <p>5. Refer to latest list of ECE Master list of Technical electives at ECE Year 3 & 4 website https://www.ece.nus.edu.sg/intranet/Students/</p>		
Have I fulfilled all requirements to graduate?			160 (min) 162

Note: The above curriculum information may be subjected to further revisions by ECE Dept.

Other information:

1. * EG1108 Electrical Engineering (3 MC) to be mapped to EE1002 Introduction to Circuits & Systems (4 MC)

This is applicable to common engineering students (of AY2014 intake) who are streamed to EE in Year 2 and taken EG1108 (3 MCs) mapped to EE1002 (4 MCs) who will need to make up for the shortage of 1 MC due to the mapping, with additional ULR/UEM modules, i.e. they need to fulfil 21 MCs of ULR or 17 MCs of UEM.

2. Limit on Level 1000 modules:

Students should not read more than 60 MCs of level 1000 modules towards their degree requirements (minimum of 160 MCs for graduation.) http://www.eng.nus.edu.sg/ugrad/SI_faq.html#A9

What will happen to the extra MCs if I read more than the allowed number of level 1000 modules?

These extra MCs will not be counted towards the total number of MCs required for graduation. However, they will still be counted towards the computation of CAP.

3. S/U Option / Grade-free semester for AY2014 intake:

Please refer to the following links for more information on S/U Option:

http://www.eng.nus.edu.sg/ugrad/SI_su_policies2014.html and <https://share.nus.edu.sg/registrar/student/info/SU-FAQ-fromAY2004.pdf>

4. Exemptions for Poly graduates of intakes AY2014/15 admitted into EE :

Poly graduates admitted into the EE in AY2014/15 will follow AY2014/2015 EE curricula.

They may be eligible for the following exemptions (up to 40 MCs) from the following list, depending on the Diploma from the polytechnics.

Plse refer to http://www.ece.nus.edu.sg/intranet/Students/Year2/Poly%20Exemptions_AY1415%20intake_4%20July%202014.pdf

- **University Level Requirements (up to 8MCs)**

1 GEM (Module code GXK1999 under Subject Group B: Humanities and Social Science) 4 MCs
1 Breadth (ULR) module 4 MCs

- **Unrestricted Elective Modules (UEMs up to 12MCs)**

- **Faculty/Programme Requirements (up to 20MCs)**

ES2331 Communicating Engineering 4 MCs
HR2002 Understanding Human Relations in the New Economy 3 MCs
EE1002 Introduction to Circuits and Systems 4 MCs (exempted for some diplomas, refer to above link for more info)

5. Module Type Code:

11 Technical/Program Essential	A9 GEM A: SCIENCE AND TECHNOLOGY MODULE
12 Technical /Program Elective	B9 GEM B: HUMANITIES AND SOCIAL SCIENCES MODULE
14 Supportive Essential	C9 GEM A (SCI. & TECH.) & GEM B (HUMANITIES & SOC SCI.)
17 MINOR/MAJOR MODULE TO BE COMPUTED IN CAP	S9 SINGAPORE STUDIES MODULE
27 UEM (UNRESTRICTED ELECTIVE OUTSIDE MAJOR)	MB DOUBLE COUNT (MINOR/MAJOR & ULR BREADTH)
U9 ULR BREADTH (ELECTIVES OUTSIDE STUDENT'S FACULTY)	ME DOUBLE COUNT (MINOR/MAJOR & TECHNICAL ELECTIVE)
	MU DOUBLE COUNT (MINOR & UEM)

For conversion of module type code, please refer to http://www.eng.nus.edu.sg/ugrad/SI_Module_declaration.html

6. Useful links for students residing at U-Town/Ridge View:

- College of Alice & Peter Tan <http://capt.nus.edu.sg/academic-programme/overview> <http://capt.nus.edu.sg/academic-programme/college-modules>
Email contact: captbox2@nus.edu.sg
- Tembusu College <http://tembusu.nus.edu.sg/education/index.php>
Email contact : tembusu-modules@nus.edu.sg
- Ridge View Residential College: <http://www.rvrc.nus.edu.sg/programme-Overview.html>
Email contact: rvrc@nus.edu.sg

7. SUMMARY of options for IA in-lieu and ECE Tech elective requirements:**For students of AY2014/2015 Poly intake:****Industrial Attachment (IA):**

EG3601 Industrial Attachment Programme (12 MCs)

Note: Poly students do not need to go on IA. In lieu of the 12 MC for IA, poly students must fulfil bridging modules and technical elective(s):

- PC1222 + (MA1301/ one B/D) + *(1 technical outer core breadth elective (4 MCs)/ EG3602 VIP (6 MCs))

SUMMARY of OPTIONS for IA in-lieu and ECE Tech elective requirements: **Option 1:**

- Take PC1222 (4MC) + MA1301 (4MC) + VIP (6MC)/EE3032 (6 MC)

- ⇒ Take 5 Tech electives = 2 outer core + 2 depth T.E + 1 B/D to fulfil ECE Technical Electives rule.

 Option 2:

- Take PC1222 (4MC) + MA1301 (4MC) + VIP (6MC) + EE3032 (6 MC)

- ⇒ Take 4 Tech electives = 2 outer core + 2 depth T.E to fulfil ECE Technical Electives rule.

 Option 3: No VIP

- Take PC1222 (4MC) + MA1301 (4MC) + *1 outer core (4MC)

- ⇒ Take 7 Tech electives (inclusive*) in total = 4 outer core + 2 depth T.E + 1 B/D to fulfil ECE Technical Electives rule.

 Option 4 : No MA1301 but with VIP

- Take PC1222 (4MC) + VIP (6MC) + *1 B/D (4MC)

- ⇒ Take 6 Tech electives (inclusive*) in total = 2 outer core + 2 depth T.E + 2 B/D to fulfil ECE Technical Electives rule.

 Option 5 : No MA1301 but with VIP and with EE3032

- Take PC1222 (4MC) + VIP (6MC) + EE3032 (6 MC)

- ⇒ Take 5 Tech electives = 2 outer core + 2 depth T.E + 1 B/D to fulfil ECE Technical Electives rule.

 Option 6 : No MA1301 and No VIP

- Take PC1222 (4MC) + #1B/D (4 MC) + #1 outer core (4 MC)

- ⇒ Take 8 Tech electives (inclusive#) in total = 4 outer core + 2 depth T.E + 2 B/D to fulfil ECE Technical Electives rule.

Legend for ECE Technical Electives (T.E):

Outer core: Outer core Breadth Technical Elective – E.g EE3xxxC

B : Breadth Technical Elective – E.g. EE3xxxC, EE3xxx

D : Depth Technical Elective – E.g. EE4xxx