

Selection of Third Year Prescribed Electives (AY2013-2014)

Third Year Courses

The third year curriculum for BRC students are as follows:

| ADMITTED TO YEAR 1 FROM AY2011-2012 | DIRECT-ENTRY TO YEAR 2 IN AY2012-2013 |
|---|--|
| OPTION A: INDUSTRIAL ORIENTATION | |
| SEMESTER 1 | |
| EE3001 ENGINEERING ELECTROMAGNETICS EE3002 MICROPROCESSORS EE3080 DESIGN & INNOVATION PROJECT EE3xxx PRESCRIBED ELECTIVE 1 UNRESTRICTED ELECTIVE | EE2003 SEMICONDUCTOR FUNDAMENTALS EE2007 ENGINEERING MATHEMATICS II EE2008 DATA STRUCTURES & ALGORITHMS EE3001 ENGINEERING ELECTROMAGNETICS EE3080 DESIGN & INNOVATION PROJECT |
| SEMESTER 2 | |
| EE3xxx PRESCRIBED ELECTIVE 2 EE0001 IMPACT OF ELECTROMAGNETIC RADIATION ON HUMANS GER ELECTIVE [STS] GER ELECTIVE UNRESTRICTED ELECTIVE UNRESTRICTED ELECTIVE | EE3002 MICROPROCESSORS EE3xxx PRESCRIBED ELECTIVE 1 EE3xxx PRESCRIBED ELECTIVE 2 EE0001 IMPACT OF ELECTROMAGNETIC RADIATION ON HUMANS UNRESTRICTED ELECTIVE |
| SPECIAL TERM (MAY – JUL) | |
| EE3176 INDUSTRIAL ORIENTATION | |
| OPTION B: INDUSTRIAL ATTACHMENT | |
| SEMESTER 1 | |
| EE3001 ENGINEERING ELECTROMAGNETICS EE3002 MICROPROCESSORS EE3080 DESIGN & INNOVATION PROJECT EE0001 IMPACT OF ELECTROMAGNETIC RADIATION ON HUMANS EE3xxx PRESCRIBED ELECTIVE 1 EE3xxx PRESCRIBED ELECTIVE 2 | EE2003 SEMICONDUCTOR FUNDAMENTALS EE2007 ENGINEERING MATHEMATICS II EE2008 DATA STRUCTURES & ALGORITHMS EE3001 ENGINEERING ELECTROMAGNETICS EE3002 MICROPROCESSORS EE3080 DESIGN & INNOVATION PROJECT |
| SEMESTER 2 | |
| EE3179 INDUSTRIAL ATTACHMENT | |

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In the third year, students will be required to select two Major Prescribed Electives from the following list. Students will also have to do the associated lab experiments in addition to the two experiments associated with Engineering Electromagnetics and Microprocessors.

| THIRD YEAR MAJOR PRESCRIBED ELECTIVES | PRE-REQUISITE | LABORATORY |
|--|---------------|------------|
| EE3010 ELECTRICAL DEVICES AND MACHINES | EE2001 | E3010L |
| EE3011 MODELLING & CONTROL | EE2006 | E3011L |
| EE3012 COMMUNICATION PRINCIPLES | EE2010 | E3012L |
| EE3013 SEMICONDUCTOR DEVICES AND PROCESSING | EE2003 | E3013L |
| EE3014 DIGITAL SIGNAL PROCESSING | EE2010 | E3014L |
| EE3015 POWER SYSTEMS AND CONVERSION PROTECTION | EE2001 | E3015L |
| EE3017 COMPUTER COMMUNICATIONS | - | E3017L |
| EE3018 INTRODUCTION TO PHOTONICS | - | E3018L |
| EE3019 INTEGRATED ELECTRONICS | EE2002 | E3019L |

Students should note that the third year major prescribed elective courses are pre-requisites to some final year prescribed elective courses. Their choice should be guided by their intended option group or specialization in their final year as indicated below:

| OPTION GROUP | SPECIALISATION | THIRD YEAR PRESCRIBED ELECTIVES |
|------------------------------------|---|---------------------------------|
| ELECTRICAL AND SYSTEMS ENGINEERING | <ul style="list-style-type: none"> • INTELLIGENT SYSTEMS AND CONTROL ENGINEERING • BIOMEDICAL ELECTRONICS | EE3011 Any EE301x |
| | <ul style="list-style-type: none"> • ELECTRICAL POWER AND ENERGY | EE3010 EE3015 |
| ELECTRONIC ENGINEERING | <ul style="list-style-type: none"> • IC DESIGN | EE3013 EE3019 |
| | <ul style="list-style-type: none"> • MICROELECTRONICS | EE3013 EE3018 |
| INFOCOMMUNICATIONS ENGINEERING | <ul style="list-style-type: none"> • COMMUNICATIONS ENGINEERING | EE3012 EE3017 |
| | <ul style="list-style-type: none"> • DIGITAL MEDIA PROCESSING | EE3012 EE3014 |
| | <ul style="list-style-type: none"> • COMPUTER ENGINEERING | EE3014 EE3017 |

Students, who wish to select more than two elective courses, may register them as unrestricted electives but only after registering the two required prescribed elective courses. They will NOT be allowed to change their prescribed electives into unrestricted electives and vice-versa. Any additional electives undertaken by the students will be counted towards their Unrestricted Elective Requirement.

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THIRD YEAR ATTACHMENTS

The various options for attachment offered to students are as follows:

- a) **Industrial Orientation (IO)** : This option is for students who want to speed up or catch up with their studies. The 10-week IO will be conducted during the 12-week vacation after Semester 2 of Year 3.
- b) **Industrial Attachment (IA)** : This option is mainly opted by students with the duration of 20 weeks.
- c) **Enhanced Industrial Attachment (EIA)** : This option is for students who prefer to have a long stint with the industry. EIA is only offered in Semester 2.
- d) **International Research Attachment (IRA)** : This option is for students who are interested in applied research project in overseas research centres/institutions. IRA is only offered in Semester 2.

| | IO | IA | EIA / IRA |
|-----------------------------------|---------------------------------|--------------------------------------|-----------------------------|
| PERIOD | 10 WEEKS [MAY - JUL] | 20 WEEKS [SEM 1 OR SEM 2] | 30 WEEKS [SEM 2] |
| ACADEMIC UNIT (CORE) | 4 | 8 | 12 |
| GRADING | PASS/FAIL | PASS/FAIL | PASS/FAIL |
| ASSESSMENTS | ONCE | TWICE | THRICE |
| SUBMISSION OF FINAL REPORT | YES | YES | YES |
| EST. APPLICATION PERIOD | FEB | SEP & APR | SEP |

Additional Information:

1. For BRC students, all attachment types are non-graded.
2. The first 4 AUs for both IA and EIA are used to meet the course requirement on IO. The extra 4 AUs earned for IA and 8 AUs for EIA can only be used to offset the requirement for Unrestricted Electives.
3. Students who choose to do IO in the final special sessions will not be able to attend the convocation in that year following the completion of their IO. These students will still graduate and be conferred their degree after successful completion of their IO. They can join the following year's convocation by informing OAS. The IO result will only be released from mid September onwards.
4. Students interested to do overseas IA must seek approval from the School and the Career Attachment Office (Student Services Centre, Level 4).
5. Students on scholarships or sponsorships (IA with the sponsor), may also apply for overseas IA, subjected to their sponsor's approval. An approval letter from the sponsor must be provided to the School and CAO.
6. For more information about overseas IA, please read the section on IA for Students on Academic Exchange via StudentLink > Academic > Engineering Attachment > Information on IA > Industrial Attachment for Students on Academic Exchange

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EXEMPTION OF ATTACHMENT

CRITERIA

- Polytechnic graduate
- At least 2 years of relevant working experience after graduating from polytechnic

To apply, you must submit the [Application Form for Exemption of Attachment](#) together with the followings:

- a letter from employer or ex-employer's HR stating the period of employment and job responsibility
- a report of at least 2000 words on the last 6 months of each employment
- testimonial from employer/ex-employer (optional)

Please refer to [Section O Exemption from Attachment](#) under [\[Information on Attachment\]](#) in the Industrial Attachment module via StudentLink for the softcopy application form as well as the guidelines.

Please submit your application form and the supporting documents to Career & Attachment Office located at Student Service Centre, Level 4. Students are advised to apply as early as possible and **not later than the start of Semester 2 of Year 2.**