**IEM ACADEMIC UNIT (AU) REQUIREMENTS**

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>COURSE TYPE</th>
<th>AU REQUIRED</th>
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<tbody>
<tr>
<td>IEM Major Requirement</td>
<td>Major-Core</td>
<td>102</td>
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<tr>
<td></td>
<td>Major-Prescribed Elective (Major-PE)</td>
<td>12</td>
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<tr>
<td>General Education Requirement (GER)</td>
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<tr>
<td></td>
<td>Art, Humanities &amp; Social Sciences (GER-PE – AHSS)</td>
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<tr>
<td></td>
<td>Business &amp; Management (GER-PE – BM)</td>
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</tr>
<tr>
<td></td>
<td>Science, Technology &amp; Society (GER-PE – STS)</td>
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<tr>
<td></td>
<td>GER-Unrestricted Elective (GER-UE)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>150</strong></td>
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**IEM CURRICULUM STRUCTURE**

In year 3, students may opt for:
- 22-week Industrial Attachment (IA) (10 AUs); or
- 10-week Industrial Orientation (IO) (4 AUs, plus 6 AUs of GER-UE courses); or
- 30-week Enhanced Industrial Attachment (EIA) (13 AUs, could offset 3 AUs of GER-UE).

The IA and EIA require 1 full semester; while the 10-week IO can be done during the special semester.

<table>
<thead>
<tr>
<th>COURSE CODE AND TITLE</th>
<th>TYPE</th>
<th>NO. OF HOURS PER WEEK</th>
<th>AU</th>
<th>PRE-REQUISITE / REMARK</th>
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<tbody>
<tr>
<td></td>
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<td>TUT</td>
<td>LAB</td>
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<tr>
<td>IEM YEAR 1 SEMESTER 1</td>
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<tr>
<td>IM1004 DIGITAL ELECTRONICS</td>
<td>CORE</td>
<td>2</td>
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<tr>
<td>IM1006 MATHEMATICS 1</td>
<td>CORE</td>
<td>2</td>
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<td>IM1008 COMPUTING</td>
<td>CORE</td>
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<tr>
<td>IM1091 ENGINEERING PHYSICS (1)</td>
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<tr>
<td>COM204 BASIC MEDIA WRITING (SCI)</td>
<td>CORE</td>
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<td>2</td>
<td>0</td>
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<td><strong>TOTAL</strong></td>
<td>12</td>
<td>7</td>
<td>1.5</td>
<td>20.5</td>
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</table>

(1) Students with only 'O' Level Physics are also required to read IM1090 Foundation Physics (3 AUs).

<p>| IEM YEAR 1 SEMESTER 2                 |      |    |     |       |                     |
| IM1001 DATA STRUCTURES AND ALGORITHMS | CORE | 2   | 1   | 0.5   | 3.5   | 3 [with LAB]        |
| IM1002 ANALOG ELECTRONICS             | CORE | 2   | 1   | 0.5   | 3.5   | 3 [with LAB]        |
| IM1003 OBJECT-ORIENTED PROGRAMMING    | CORE | 2   | 1   | 0     | 3     | 3 [with Practical]  |
| IM1007 MATHEMATICS 2                  | CORE | 2   | 1   | 0     | 3     | 3                   |
| ART190 DRAWING AS A CONCEPTUAL TOOL (ADM) | CORE | 0   | 3 | 0  | 3  | 3                   |
| GER - PRESCRIBED ELECTIVE 1           | GER-PH | 2   | 1   | 0     | 3     | 3                   |
| GER - PRESCRIBED ELECTIVE 2           | GER-PH | 2   | 1   | 0     | 3     | 3                   |
| <strong>TOTAL</strong>                             | 12  | 9  | 1.5 | 22.5  | 21 |                     |</p>
<table>
<thead>
<tr>
<th>COURSE CODE AND TITLE</th>
<th>TYPE</th>
<th>LEC</th>
<th>TUT</th>
<th>LAB</th>
<th>TOTAL</th>
<th>AU</th>
<th>PRE-REQUISITE / REMARK</th>
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<td>IEM YEAR 2 SEMESTER 1</td>
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<td>3</td>
<td>3</td>
<td>[with LAB]</td>
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<td>IM2002 MICROPROCESSORS</td>
<td>CORE</td>
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<td>[with LAB]</td>
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<td>IM2006 ENGINEERING MATHEMATICS I</td>
<td>CORE</td>
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<td>1</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>IM1007</td>
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<tr>
<td>COM206 VISUAL LITERACY &amp; COMMUNICATION (SCI)</td>
<td>CORE</td>
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<td>2</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>IM1007</td>
</tr>
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<td>HW210 TECHNICAL COMMUNICATION (HSS)</td>
<td>GER-CORE</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>IM1007</td>
</tr>
<tr>
<td>GER - PRESCRIBED ELECTIVE 3</td>
<td>GER-PE</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>[with LAB]</td>
</tr>
<tr>
<td>GER - UNRESTRICTED ELECTIVE 1</td>
<td>GER-UE</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>13</td>
<td>9</td>
<td>0.5</td>
<td>22.5</td>
<td>22</td>
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</table>

(1) Students are required to spend 6 hour per week during the semester and another week after the final examination.

| IEM YEAR 2 SEMESTER 2 |              |     |     |     |       |    |                        |
| IM2003 COMPUTER COMMUNICATIONS | CORE | 2   | 1   | 0.5 | 3.5   | 3  | IM1006 & IM1007         |
| IM2004 SIGNALS AND SYSTEMS | CORE | 2   | 1   | 0.5 | 3.5   | 3  | [with LAB]             |
| IM2007 ENGINEERING MATHEMATICS II | CORE | 3   | 1   | 0   | 4     | 4  | IM1007                 |
| IM2079 DESIGN AND INNOVATION PROJECT | CORE | 0.5 | 0   | 6   | 6     | 3  | [with LAB]             |
| ART290 VISUAL WORKSHOP I (ADM) | CORE | 0   | 3   | 0   | 3     | 3  |                       |
| GER - PRESCRIBED ELECTIVE 4 | GER-PE | 2   | 1   | 0   | 3     | 3  | [with LAB]             |
| TOTAL |              | 9.5 | 7   | 7   | 23    | 19 |                        |

| IEM YEAR 3 SEMESTER 1 |              |     |     |     |       |    |                        |
| IM3001 DIGITAL SIGNAL PROCESSING | CORE | 2   | 1   | 0.5 | 3.5   | 3  | IM2004 [with LAB]     |
| IM3002 COMMUNICATION PRINCIPLES | CORE | 2   | 1   | 0.5 | 3.5   | 3  | IM2004 [with LAB]     |
| IM3003 INFORMATION SECURITY | CORE | 2   | 1   | 0   | 3     | 3  | [with LAB]             |
| IM3072 PROJECT | CORE | 0   | 0   | 3   | 3     | 1  |                       |
| ART292 VISUAL WORKSHOP II (ADM) | CORE | 0   | 3   | 0   | 3     | 3  |                       |
| COM224 WEB DESIGN AND TECHNOLOGY (SCI) | CORE | 2   | 2   | 0   | 4     | 4  |                       |
| GER - PRESCRIBED ELECTIVE 5 | GER-PE | 2   | 1   | 0   | 3     | 3  | [with LAB]             |
| TOTAL |              | 10  | 9   | 4   | 23    | 20 | [with LAB]             |

| IEM YEAR 3 SEMESTER 2 |              |     |     |     |       |    |                        |
| IM3079 INDUSTRIAL ATTACHMENT (22 WEEKS, FULL-TIME) | CORE | 22 WEEKS FULL-TIME | 10 | YEAR 3 CLASSIFICATION |

(2) Students may opt for 22-week Industrial Attachment (IA) (10 AUs); or 10-week Industrial Orientation (IO) (4 AUs, plus 6 AUs of GER-UE courses); or 30-week Enhanced Industrial Attachment (EIA) (13 AUs, could offset 3 AUs of GER-UE).
<table>
<thead>
<tr>
<th>COURSE CODE AND TITLE</th>
<th>TYPE</th>
<th>NO. OF HOURS PER WEEK</th>
<th>AU</th>
<th>PRE-REQUISITE / REMARK</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>LEC</td>
<td>TUT</td>
<td>LAB</td>
</tr>
<tr>
<td>IEM YEAR 4 SEMESTER 1</td>
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<tr>
<td>IM4001 MULTIMEDIA SYSTEMS</td>
<td>CORE</td>
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<tr>
<td>IM4041 HUMAN RESOURCE MANAGEMENT</td>
<td>CORE</td>
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<tr>
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<td>15</td>
</tr>
<tr>
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<td>MAJOR-PE</td>
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<td>1</td>
<td>0</td>
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<tr>
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<td>MAJOR-PE</td>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td>GER - UNRESTRICTED ELECTIVE 2</td>
<td>GER-UE</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>10</td>
<td>5</td>
<td>15</td>
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(I) Final Year Project carries 10 AUs and is spread over 2 semesters.

<table>
<thead>
<tr>
<th>IEM YEAR 4 SEMESTER 2</th>
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<tbody>
<tr>
<td>IM4040 ENGINEERS AND SOCIETY</td>
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<tr>
<td>IM4079 FINAL YEAR PROJECT (I)</td>
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<td>HW310 PROFESSIONAL COMMUNICATION (HSS)</td>
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<td>TECHNICAL ELECTIVE 3</td>
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<tr>
<td>TECHNICAL ELECTIVE 4</td>
</tr>
<tr>
<td>GER - UNRESTRICTED ELECTIVE 3</td>
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<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

TOTAL ACADEMIC UNITS FOR GRADUATION 150

FINAL YEAR TECHNICAL ELECTIVES (IEM MAJOR-PE)

Students are required to choose 4 Technical Electives.

- IM4756 Computer Architecture
- IM4761 Computer Networking
- IM4791 Database Systems
- IM4152 Digital Communications
- IM4153 Telecommunication Systems
- IM4188 Wireless Communications
- IM4455 Embedded Systems
- IM4475 Audio Signal Processing
- IM4476 Image Processing
- IM4478 Digital Video Processing
- IM4483 Artificial Intelligence and Data Mining

- CE4001 Augmented and Virtual Reality (SCE)
- CE4002 Media Management and Processing (SCE)
- CE4003 Computer Vision (SCE)
- CE4005 Computer Graphics and Animation (SCE)
- CE4013 Simulation and Modeling (SCE)
- COM321 Audio Radio Production (SCI)
- COM270 Single-Camera Operation (SCI)
- VIS385 Interface Design (ADM)
- INT210 Interactive Media workshop I (ADM)

CLASSIFICATION OF STUDENTS

<table>
<thead>
<tr>
<th>NUMBER OF AU EARNED</th>
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</thead>
<tbody>
<tr>
<td>YEAR 1</td>
</tr>
<tr>
<td>IEM (Year 1 intake) (for students admitted before AY2010)</td>
</tr>
</tbody>
</table>

NOTES

- The curriculum is subjected to review and change.
- Some core courses are NOT offered in both semesters.
- Elective courses may NOT be offered.