Plans of Study for the M.S. – Requirements and Sample

SBES Requirements for the M.S. Degree:

All M.S. students must meet certain minimal requirements which need to appear on the Plan of Study. **The minimum TOTAL credits for the M.S. degree is 30 credits.** See chart below for details.

<table>
<thead>
<tr>
<th></th>
<th>Math</th>
<th>Life Science</th>
<th>Engineering</th>
<th>Electives</th>
<th>Total Course Credits</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum # Credits</td>
<td>Minimum # Credits</td>
<td>Minimum # Credits</td>
<td>Minimum # Credits</td>
<td></td>
<td>Minimum # Credits</td>
</tr>
<tr>
<td>If you began with SBES prior to Fall 2009 . . .</td>
<td>3 Can be MATH or STAT - from the approved lists</td>
<td>4 Required Course: Mammalian Physiology</td>
<td>6 3 of these satisfied with Required Course: Quantitative Physiology***</td>
<td>8-10 Approved by committee</td>
<td>21 - 23</td>
<td>7-9 Research &amp; Thesis</td>
</tr>
<tr>
<td>If you began with SBES Fall 2009 thru Fall 2010 . . . .</td>
<td>3 Can be MATH or STAT - from the approved lists</td>
<td>4 Required Course: Mammalian Physiology</td>
<td>9 3 of these satisfied with Required Course: Quantitative Physiology***</td>
<td>5-7 Approved by committee</td>
<td>21 - 23</td>
<td>7-9 Research &amp; Thesis</td>
</tr>
<tr>
<td>If you began with SBES Fall 2011 or thereafter . . . .</td>
<td>3 Can be MATH or STAT - from the approved lists</td>
<td>3 See Life Science Credits Requirement document on web</td>
<td>9 6 of these satisfied with two required Quantitative Physiology Courses</td>
<td>6-9 Approved by committee</td>
<td>21 - 24</td>
<td>6-9 Research &amp; Thesis</td>
</tr>
</tbody>
</table>

*** Remaining credits of Engineering can be from SBES or from another engineering department.

**Sign-up for Seminar is required every semester – credits do NOT count toward degree** (not shown in chart)

All courses must be either 5000 or 6000-level (VT), or 600-700 (WFU).

**Students are advised to thoroughly READ the “Advisory Committees” and the "Plans of Study" sections (9.3 and 9.4) of the SBES Graduate Handbook before submitting a draft plan.**

*** ‘Do’s and Don’ts on Filling out the POS form:***

1) **Research section** → Put the year and semester you expect to graduate – all credits on one line.

2) **Main course-list section (pg. 1):**
   → Make sure you type course numbers and credits accurately.
   → Consult your unofficial transcript to check accuracy of information.
   → Do NOT label ALL of your courses in the far-right column – just the ones meeting the minimum requirements. “Elective” courses are **not** labeled.

3) **Math section** → Courses meeting the Math Requirement go here – not up in the main course section

4) **Transfer section (pg. 2)** → List transfer courses here (if any) – cannot have more credits in this section than you have on page one (main and math sections together) – type grade earned.
5) Supporting Courses section: **Different instructions for each campus

**VT campus** → Record Year/Term you began – if you began *before* Fall of 2013, use Fall 2013 as your ‘beginning year’. Type the following on the first line:

2013 Fall BMES 5944 Ethics requirement met through Seminar course

**WFU campus** → List the mandatory courses you took from the WFU grad school:

2012 Fall GRAD 713 Scientific Integrity 1
2013 Fall GRAD 714 Professional Development 1

(These items satisfy the ‘Ethics’ requirements mandated by both WFU and Virginia Tech)

6) Seminar section → Record the number of semesters you’re enrolled for seminar up to the semester you expect to graduate – credits do NOT count toward the degree. If you began *before* Fall of 2013, record ‘Fall 2013’ in the first box and count from there. If you began in Fall of 2013 or after, record the year and semester you began with SBES and count from there.

**NOTE:** The Seminar course began in Fall 2013

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This is a VT campus plan – WFU plans will have WFU course numbers and the WFU ‘Ethics’ record as seen above.

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**M.S. Sample Plan 1**

Proposed Graduate Program of Bilbo Baggins (904-11-1111)
Leading to the Degree of
Master of Science in Biomedical Engineering

Theme Area: Tissue Engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Sem.</th>
<th>Dept. and Course No.</th>
<th>Course Title</th>
<th>Credits</th>
<th>Subj. Area** Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Research / Thesis (6-9 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>Spring</td>
<td>BMES 5994</td>
<td>Research and Thesis</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Last yr/sem. attending)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Total Research Credits)

**600/5000 and Higher Level Courses**

2012 Fall BMES 5054 Quantitative Cell Physiology 3 ENGR
2012 Fall BMES 5304 Biological Transport Phenomena 3 ENGR
2013 Spring BMES 5064 Quantitative Organ System Physiology 3 ENGR
2013 Fall BMES 5414 Biomaterials 3
2014 Spring BMES 5024 Biomedical Engr. & Human Disease 3 LS

**600/4000/5000 Level Math Requirement (Min. 3 credits)**

2013 Spring STAT Statistics in Research 3 MATH
Transfer Courses *(Name university - type the grade earned after course title)*
Normal Transfer: *Transferring university is:* University of Virginia

2010 Spring CHE 647 Biochemical Engineering / B+ 3

**Total Course Credits Toward Degree** 21

**Total Credits Toward Degree (coursework + research)** 30

**Other Credits (Supporting Courses) (not counting toward degree requirements)**

2013 Fall BMES 5944 Ethics Requirement met through Seminar Course 0

**Seminar Requirement** *(sign-up required every Fall / Spring semester until graduation)*

Fall 2013 Spr 2015 4 BMES 5994/708 Seminar / Topics in BME 4 SEM

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**Signatures of Advisory Committee: (above typed names)**

________________________________________  _____________________________
(Type Committee Chair's Name here), Chairman                   (Type Extra Member’s Name here)

________________________________________  _____________________________
(Type Committee Member's Name here), Member  Bilbo Baggins

321 Sweet St.  Blacksburg, VA  24060

__________________________________________   _____________________________
(Type Committee Member’s Name here), Member  Dr. H. Clay Gabler, Ph.D., GPC Chair

Date submitted to Graduate Office

** Subject area designations: Used to help visually track completion of minimal BMES program requirements:  LS = Life Sciences; ENGR = Engineering courses; MATH = Math

**DO NOT LABEL ALL THE COURSES**, only those designating the requirements.