**-2018- B.A.E./M.A.E. Integrated Program Requirements – Lighting**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Course Numbers | Course Name | Transcript /Degree Audit Accounting b,c, |
| IUG/GRC | BAE d | MAE  |
| BAE Required Courses a | MAE Required Courses a  | AE464 | Advanced Illumination Engineering | GRC | On Grad Transcript c | 3 |
| AE466 | Computer Aided Lighting Design & Analysis | GRC | On Grad Transcript c | 3 |
| AE461 | Basic Theory of Building Illumination | IUG | 3 | 3 |
| AE467 | Advanced Building Electrical  | IUG | 3 | 3 |
| AE 565 | Daylighting (Spring – even years) | IUG | 3 | 3 |
| AE 561  | Light Sources (Fall – odd years)  | IUG | 3 | 3 |
|  | AE 882e  | MAE Capstone Project (replaces AE 482 for BAE/MAE Students) | GRC |  | 3 |
|  | MAE Lighting Elective# (500-level)  | GRC |  | 3 |
|  | MAE Elective (500-level) | GRC |  | 3 |
|  | MAE Elective (500-level) | GRC |  | 3 |
|  |  | Credits that count toward BAE OR MAE (GRC) only |  | 142 | 18 |
|  |  | Credits that count toward both programs (IUG) | 12  | 12 |
|  |  | Total Credits on Transcript | 154  | 30 |
|  |  | Total Credits BAE+MAE | 172 |

**a**. Integrated BAE/MAE students are required to complete all BAE Required Courses in the 5 year plan and MAE Required Courses, noted above, to fulfill the integrated BAE/ MAE degree requirements.

**b**. Of the 172 credits required for the integrated program, 12 **IUG** credits will appear on both transcripts resulting in 154 credits on the undergraduate transcript and 30 credits on the graduate transcript. Because the degree audit only accounts for courses related to the BAE only program, it will not always properly reflect progress in the integrated program. Credits labeled as **GRC** will only appear on the graduate transcript. **Students must register for these courses on the appropriate transcript. Please see “Registration Instructions for BAE/MAE Students” for details.**

**c**. Six credits required for the 160 credit BAE program are accounted for in the graduate component of the BAE/MAE program. These credits are waived from the undergraduate degree audit.

**d.** The BAE degree requirements listed on this matrix is based on the 2016 Program.

**e.** AE 882 (or AE 897G) combined with AE 497 replaces AE 482 for MAE students

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**Lighting B.A.E./M.A.E. and M.A.E. Electives:** # = fulfills the MAE Lighting Elective course

AE 562 – Luminous Flux Transfer #

AE 563 – Luminaire Optics #

AE 569 – Research Topics in Illumination Engineering#

AE 551 – Combined Heat and Power

AE 579 – Sustainable Building Project Leadership

AE 597 - Color Science for Illumination Engineering#

AE 868 - Commercial Solar Electric Systems

ARCH 542 - Topics in Community and Urban Design

Any relevant 500-level course (with approval)

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| **Student Name:**  **Date:** |
| **BAE/MAE Degree Planning Sheet Fall 2018 Applications: Part 1** |
| Courses in Black are unmodified BAE requirements |  |
| Courses in Blue are modified BAE requirements for the MAE |
| Courses in Red are new requirements for the MAE | (All Options) |
| **BAE/MAE Degree Requirements** | **Courses taken before or the Fall 18 Semester (✓)** | **Courses Proposed for Fall 18 and beyond (✓)** |
| AE 124S |   |   |
| AE 202 |   |   |
| AE 221 |   |   |
| AE 222 |   |   |
| AE 308 |   |   |
| AE 309 |   |   |
| AE 310 |   |   |
| AE 311 |   |   |
| AE 372 |   |   |
| AE 481W |   |   |
| AE 882\*+AE497G |   |   |
| Arch 130A |   |   |
| Arch 130A |   |   |
| Arch 100 |   |   |
| Arch 441 |   |   |
| Arch 443 |   |   |
| ART H 202 |   |   |
| CAS100A/B |   |   |
| Chem 110 |   |   |
| Chem 111 |   |   |
| E MCH 211 |   |   |
| E MCH 213 |   |   |
| E MCH212 |   |   |
| Econ 2, 4, 14 |   |   |
| EDSGN 130 |   |   |
| EE211 |   |   |
| Engl 15 |   |   |
| Engl 202C |   |   |
| GH (3 CR) |   |   |
| GH (3 CR) |   |   |
| GHA (3 CR) |   |   |
| GS (3 CR) |   |   |
| Math 140 |   |   |
| Math 141 |   |   |
| Math 220 |   |   |
| Math 231 |   |   |
| Math 250 |   |   |
| ME 201 |   |   |
| Phys 211 |   |   |
| Phys 212 |   |   |
| Phys 213 |   |   |
| Stat 401 |   |   |

All courses noted as electives, GS, GH, etc. should be noted as a specific course as taken or proposed.

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| **Student Name:**  **Date:** |
| **BAE/MAE Degree Planning Sheet Fall 2018 Applications: Part 2** |
| Courses in Black are unmodified BAE requirements |  |
| Courses in Blue are modified BAE requirements for the MAE |
| Courses in Red are additional requirements for the MAE | (Lighting) |
| **BAE/MAE Degree Requirements** | **Courses taken before the Fall 18 Semester (✓)** | **Courses Proposed for Fall 18 and beyond (✓)** |
| AE404 |  |   |
| AE454 or AE 453 |  |   |
| Arch 442 |   |   |
| Department Elective (3cr) |  |  |
| Department Elective (3cr) |   |   |
| Department Elective (3cr) |   |   |
| AE 464\* |   |   |
| AE 466\* |   |   |
| AE 461\* |   |   |
| AE 467\* |   |   |
| AE 468 |   |   |
| AE 565\* |   |   |
| MAE Elective (3cr)\* |   |   |
| MAE Elective (3cr)\* |   |   |
| MAE Elective (3cr)\* |   |   |
| MAE Elective (3cr)\* |   |   |
| \* These courses comprise the 30 credit MAE degree.All courses noted as electives, GS, GH, etc. should be noted as a specific course as taken or proposed. |

**Proposed Schedule**

|  |  |  |
| --- | --- | --- |
| **Semester 7: Fall 201\_** | **Semester 8: Spring 201\_** | **Summer 201\_** |
| AE 461 |  | AE 466 | 3 |  |  |
| AE 464 |  | AE 467 | 3 |  |  |
| AE 404 |  | AE 5\_\_ | 3 |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Total Credits** |  | **Total Credits** |  | **Total Credits** |  |

|  |  |  |
| --- | --- | --- |
| **Semester 9: Fall 201\_** | **Semester 10: Spring 20\_\_** | **Summer 20\_\_ or** (Choose 1)**Semester 11: Fall 20\_\_** |
| AE 481W | 4 | AE 882 (or 897G) | 3 |  |  |
| AE 468 | 3 | AE 497G | 1 |  |  |
| AE 561 | 3 | AE 565 | 3 |  |  |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Total Credits** |  | **Total Credits** |  | **Total Credits** |  |

## BAE/MAE Program Proposal – Lighting (Fall 2018) L

C

Department of Architectural Engineering - Integrated Bachelor of Architectural Engineering / Master of Architectural Engineering Degree Program

**Student Name:** Date:

**Proposed Program of Study:** (30 credits - approved sequences are provided on the first page of this document): These courses, when approved, will comprise a student's MAE degree program. A minimum 3.0 Grade Point Average is required in these courses to receive the MAE degree with the BAE.

If you wish to propose an alternate course than ones listed below, please put a line through the course you plan to drop from this list and enter the new course in the blank provided. For courses listed as electives in the BAE/MAE program, please enter the course number and title. Student should state reasons for any substitutions. Use a separate page if needed.

**ENTER THE PROPOSED FOUR ADDITIONAL COURSES YOU PLAN TO TAKE BELOW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Course Numbers | Course Name | Degree Requirements  | Proposed Substitution |
| BAE c | MAE | Course No. | Course Name |
| AE Option Specific Courses  | MAE Required Courses  | AE464 | Advanced Illumination Engineering | Note C | 3GRC |  |  |
| AE466 | Computer Aided Lighting Design & Analysis | Note C | 3GRC |  |  |
| AE461 | Basic Theory of Building Illumination | 3IUG | 3IUG |  |  |
| AE467 | Advanced Building Electrical  | 3IUG | 3IUG |  |  |
| AE 565 | Daylighting | 3IUG | 3 \*IUG |  |  |
| AE 561 | Light Sources | 3IUG | 3 \*IUG |  |  |
|  | AE 882 a  | Capstone Project for BAE/MAE Students (or AE 897G) |  | 3GRC |  |  |
|  | MAE Lighting Elective (500-level) #,b |  | 3GRC |  |  |
|  | MAE Elective (500-level) b |  | 3GRC |  |  |
|  | MAE Elective (500-level) b |  | 3GRC |  |  |

a When combined with AE 497, this replaces AE 482 for MAE students

# A 500-level Lighting Elective must be selected from the approved list

b A specific course must be listed on this page for electives and worked in the schedule on the previous page.

c These courses are accounted for in the graduate component of the BAE/MAE program. See first page for more information on degree requirement accounting.

\*FINANCIAL AID NOTE – for students receiving PA or Federal financial aid, it may be beneficial to assign the 4th year 500-level courses to the IUG category to maintain at least 12 credits on the undergraduate transcript each semester. These courses would then switch to GRC courses if taken in the 5th year.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (Graduate Program Officer)

**REGISTRATION INSTRUCTIONS FOR BAE/MAE STUDENTS**

For BAE/MAE students, registration for courses must follow the following instructions. Note that registration for some courses is performed online while for others it requires paper forms. Some courses go on the undergraduate transcript while others go on the graduate transcript. The instructions for each course are based on the course number as well as the application of the course to your degrees (“BAE only” versus “IUG” and “GRC”).

* First, for those courses that only apply to your undergraduate degree and are numbered 001‐ 499, register online using your **undergraduate** enrollment appointment. AE 481 is an example.
* For undergraduate courses that will **only** count toward the graduate degree (400‐499), register online using your **graduate** enrollment appointment. These are the **400‐level GRC** courses on your MAE course plan.
* For undergraduate courses that are shared and will count toward both degrees (400‐499), register online using your **undergraduate** enrollment appointment. These are **400‐level IUG** courses on your MAE course plan.
* For graduate courses that will only count toward the graduate degree (500 or 800 level), register online using your graduate enrollment appointment. These are the **500 or 800‐level GRC** courses on your MAE course plan.
* For graduate courses that are shared and will count toward both degrees (500 or 800 level), **do not register online**. These are the **500 or 800‐level IUG** courses on your MAE course plan. Register using the *Undergraduate Student to take 500 or 800‐Level Course* form, which requires signatures and must be hand delivered to The Graduate School: http://gradschool.psu.edu/faculty‐and‐staff/forms/ges/#Student Forms.
* For graduate courses that will only count toward your undergraduate degree (500 or 800 level), **do not register online**. This category is for the rare situation where an MAE student is taking an extra 500‐level or 800‐level course to apply to a BAE Department Elective, but **this course is not used to meet any MAE requirements**. Register using the *Undergraduate Student to take 500 or 800‐Level Course* form, which requires signatures and must be hand delivered to The Graduate School: http://gradschool.psu.edu/faculty‐and‐staff/forms/ges/#Student Forms.