



COLUMBIA UNIVERSITY  
Department of Electrical Engineering

EE MASTER OF SCIENCE PROGRAM CHECKLIST

NAME: \_\_\_\_\_  
(Please print)

UNI: \_\_\_\_\_

This form provides a checklist to track progress in the  
Master of Science Program in Electrical Engineering

COURSE NUMBER & NAME CREDITS

Summary of MS EE. degree requirements

Total credits	

1. \_\_\_ 30 course credits, all 4000-level or above, and taken for a letter grade (i.e., no P or R grades).
2. \_\_\_ at least 15 credits at or above 6000 level.
3. \_\_\_ at least 15 credits in EE (including joint courses); 12 of which should be taken within the first 24 credits.  
(joint: EECS, CSEE, BLME, ECBM, ...)
4. \_\_\_ No more than 6 research credits (e.g., ELEN E4998, ELEN E6001, ELEN E6002).
5. \_\_\_ No more than 3 credits total for courses
  - (a) Outside of SEAS and the Math & Science departments (e.g., Economics or Business courses), or
  - (b) Non-technical courses in SEAS or the Math & Science departments (e.g., IEOR E4702 Human Factors); these courses require prior advisor approval.
6. \_\_\_ No credit for Math & Science courses covering traditional undergraduate engineering topics (e.g., STAT GU4203 Probability Theory).
7. \_\_\_ Required 0-credit PDL course (no tuition fee).
8. \_\_\_ 2.5 GPA minimum.
9. \_\_\_ Completion within 5 years; students on a visa need to respect the time limit of their visa, typically a maximum of 3 semesters.
10. \_\_\_ No more than 1.5 credits for internships of any type over the whole MS program.

Important Notes:

- 1) All courses outside the list on the next page must be pre-approved.
- 2) Course “credits” are the same as the number of “points” for each course.
- 3) Each student is responsible to ensure that the courses they select satisfy all requirements, especially if they are constrained by a deadline, e.g. imposed by their student visa.
- 4) This checklist is just for tracking purposes. The SEAS bulletin is the authoritative source for the M.S.E.E. program requirements.



## List of courses which are pre-approved for the MS EE degree as of 2018-2019

1. Any EE Dept. graduate course except EEHS E4900. Joint courses are included - examples of joint courses are EECS, CSEE, ECBM, and other courses which are co-listed between EE and other departments.
2. Any CS Dept. graduate course except COMS W4910 and those covering non-technical topics such as Writing, Presentation, Computers & Society, or Ethics. Joint courses are included.
3. Any regular, technical graduate-level Mechanical Engineering (ME) course. This does not include courses such as IEME E4310 or MECE E4999.
4. Any regular, technical graduate-level MSAE Program course. This does not include topics or project courses with significant non-technical content, or Material Science and Engineering Program (MSAE) E4999.
5. The following courses in Applied Math (APMA): 4001, 4101, 4150, 4200, 4204, 4300, 4301, 4400, 6209, 6301, 6302, 6304, 8308.
6. The following courses in Applied Physics (APPH, CHAP): 4008, 4010, 4090, 4100, 4110, 4112, 4120, 4130, 4200, 4210, 4300, 4301, 6081, 6082, 6085, 6091, 6101, 6102, 6110.
7. The following courses from Biomedical Engineering (BME): 4150, 4210, 4300, 4301, 4305, 4310, 4320, 4321, 4340, 4410, 4420, 4430, 4439, 4440, 4450, 4500, 4501, 4502, 4510, 4540, 4560, 4570, 4590, 4601, 4702, 4703, 4737, 4738, 4750, 4761, 4810, 4840, 4894, 4898, 6003, 6301, 6310, 6311, 6400, 6420, 6500, 6505. Note that courses offered jointly with EE are included in item one.
8. Any regular, technical 4000- or 6000-level Industrial Engineering and Operational Research (IEOR) course from areas 1 (Analytics) or 9 (Optimization), or 6000-level course from area 10 (Applied Probability) (see [www.ieor.columbia.edu](http://www.ieor.columbia.edu) for classifications). In addition, IEOR E4404 & IEOR E4530 are included.
9. Any regular, technical graduate-level Chemical Engineering (CHEN) course beyond CHEN E4001 & E4002. This does not include courses such as CHEN E4501 and CHEN E4690.
10. Any regular, technical graduate-level course in Engineering Mechanics (ENME).
11. The following courses from Civil Engineering (CIEN): 4226, 4232, 4233, 4234, 4241, 4242, 4253, 6232, 6246, 6248.
12. The following courses from Earth & Environmental Engineering (EAEE): 4050, 4101, 4163, EAEE 4200, 4210, 4250, CHEE E4252, 4255, 4257, 4304, 4530, 4901, 4950, 6132, 6150, 6151, 6200, 6201, 6208, 6210, 6212, 6228, 6240, 6252
13. The following courses from Statistics (STAT): GR5206, GR5207, GR5221GR522, GR522, GR5224, GR5231, GR5232, GR5233, GR5234, GR5241, GR5242, GR5243, GR5261, GR5262, GR5263, GR5264, GR5265, GR5293.
14. The following courses from Mathematics (MATH): GU4007, GU4032, GU4041, GU4042, GU4043, GU 4044, GU4045, GU4051, GU4052, GU4053, GU4061, GU4062, GU40625, GU 4065, GU4081, GU4155, GU4391, GU4392, GR6307, GR6308, GR6151, GR6152, GR6153, GR6261, GR6262, GR6657, GR6175, GR6176, GR6343, GR6344, GR6402, GR6403, GR 6000.
15. The following courses from Biology (BIOL): GR4011, GR6201, GU4001, GU4004, GU4022, GU4034, GU4041, GU4073, GU4300, GU4323, GU4501
16. The following courses from Physics (PHYS): GU4003, GU4011, GU4012, GU4018, GU4019, GU4021, GU4022, GU4023, GU4040, GU4050, GR6010, GR6011, G6024, GR6036, GR6037, GR6038, G6040, GR6047, GR6050, GR6060, G6080, GR6082, G6083, GR6092, GR6094, G6099, GR8012, G8036, GR8040, G8041, GR8048, GR8049, G8050, GR8066, GR8069, GR8083.
17. The following courses from Chemistry (CHEM): G4221, G4230, G4332, G6222, G8223, G6231, G8232, G4102, G4147, G4148, G4154, G4172, G4071, G4103, G8104, G8106, G8111, G8109, W4312, GU4323, GU4324, G4168, G4169, G8130.
18. Note: There are likely other courses that would be acceptable to use as technical MSEE courses but do not yet appear in this list. For those courses, please send an email to [info@ee.columbia.edu](mailto:info@ee.columbia.edu) with the subject "MSEE Course Approval Request" that contains your UNI, the full course number and title, and links (or attachments) for the description and syllabus (if available).
19. Note: Columbia School of Arts and Sciences has been modifying the numbering scheme for some of the courses.