

## Overview of the M.S. Program in Mechanical Engineering

### **Program Overview, Mission and Goals**

The Master of Science degree in Mechanical Engineering (MSME) prepares students for advanced engineering work in industry and government, or for continued education and research in a doctoral engineering program. Academic and research emphasis can be in the areas of biomedical engineering, design, energy, manufacturing, materials and deformable solid body mechanics, robotics and rigid body mechanics, and thermo-fluids.

The basic requirement for admission is a Bachelor's degree in mechanical engineering with a minimum 3.0 undergraduate grade point average (GPA) . Applicants holding degrees in closely related fields or from non-accredited engineering institutions may be required to compensate for deficiencies with additional coursework prescribed by the department. The Graduate Record Exam (GRE) general test is required for all applicants and Test of English as a Foreign Language (TOEFL) is required for applicants whose native language is not English. The required test scores for the GRE are: 161 for Quantitative and 153 for Verbal. \*NOTE: The GRE requirement can be waived by recommendation of your potential advisor. In order to be eligible for any financial assistance, the TOEFL iBT score must be 80 or higher or if taking the IELTS test, the score must be 6.5 or higher in ALL bands, without exception. Three letters of recommendation are required from persons who can attest to the applicant's academic and research aptitude. GPA, GRE and TOEFL scores, and engineering accomplishments are considered for admission and awards of tuition scholarships and stipends.

Financial assistance is available in the form of graduate fellowships, research assistantships, and graduate assistantships. It is recommended that students enter the program in the fall semester. International students whose proficiency in English is inadequate are encouraged to enroll in the Ohio Program of Intensive English (OPIE) at Ohio University in the summer semester preceding their first semester of study in the MSME program.

### **Curriculum**

The graduate program is described in the Ohio University graduate catalog, and additional details are outlined in the Program Guidelines. The minimum requirements for the thesis program are 18 semester-hours of graduate coursework, 3 semester-hours of research credit work, and nine (9) semester-hours of thesis work. For the non-thesis option, the minimum requirements are 24 semester-hours of graduate coursework and six (6) semester-hours of research project work. Both thesis and non-thesis options are available for the M.S. program, however the non-thesis option is not available to students receiving support from the Department or Russ College without special circumstances approved by both the Graduate Chair and the Graduate Committee.

During the first semester in the program, each student will develop a specific plan of study in consultation with his/her advisor. The program of study must include ME core courses. Required coursework also includes class (5XXX or 6XXX level) related to Experimental Methods, Statistics or Engineering, ME 6020 (Technical Writing Seminar) and ME 5800 (Graduate Colloquium).

By the end of the first semester in the program, each full-time student must develop a specific Plan of Study in consultation with his/her advisor [See the Plan of Study form]. By the end of the second semester, students must also formulate a proposal for their research, which is presented to a committee for approval before completing their thesis or project work. All students are **required** to abide by Russ College plagiarism guidelines in their courses and research work.

## M.S.M.E. Graduate Program Guidelines

### A. General Rules

1. All students are expected to follow the Program Guidelines set forth herein; otherwise students may be dropped from the program. Students receiving tuition scholarships and/or stipends must be registered as a full-time student (18 credit-hours) and follow the prescribed program of study. Failure to do so will result in cancellation of tuition and stipend support and/or late fee charges.
2. First-year, full-time students should register for three (3) courses per semester, plus ME 5800 (Graduate Colloquium) for each semester. Additional credit-hours are to be taken as ME 6950 (Thesis) or ME 6810 (Research) to meet the 18 credit-hour requirement. A student's advisor may require that only 2 courses (or even 1 course) be taken. Technical Writing Seminar (ET 6020) should be taken during the first year.
3. Full-time students must select an advisor for their graduate program before entering into the program. Under special circumstances, the student can make a written request to delay the selection.
4. Graduate students are required to meet with their academic advisor every Fall and Spring semester during the 9<sup>th</sup> or 10<sup>th</sup> week (advising weeks). The purpose of this meeting is to approve/review the plan of study, which is required each semester to maintain good standing in the graduate program. Following the student's meeting with their academic advisor, a meeting with the graduate chair may be arranged to review student's program of study.
5. All students must take ME 5800 (Graduate Colloquium) for two (2) semesters and make one research presentation. Full-time students should take this during the first academic year of study.
6. A maximum of four (4) credit hours of Special Investigation (ME 5930) can be counted for graduation credits. Lecture classes taught as ME 5930 are exempt from this policy.
7. A student must maintain a GPA of no less than 3.00 to graduate with the M.S.M.E. degree. If the GPA falls below 3.00, the student will be placed on probation for one semester. Failure to improve his/her GPA to 3.00 during the probation semester will result in dismissal from the program. A grade below a "C" (2.00) will disqualify a course from being used for credit.
8. While the students **must** submit their preliminary plan of study by the end of their first semester, students must have their **final** plan of study approved by their entire committee at the time of their **thesis proposal defense**. Further, this plan of study must be re-certified by the advisor and graduate chair at the time of the thesis defense to ensure it has been followed.
9. Students **must** have an approved (signed) thesis or project proposal on file with the Russ graduate office (Stocker 166) by the end of their first academic year, and must have successfully defended their project or thesis within three academic years. Failure to meet these requirements will indicate unsatisfactory progress towards degree completion and will result in the student being dropped from the program. The Thesis/Project Proposal approval form is attached to these guidelines or can be obtained from the Russ College graduate program administrator.
10. Part-time students must complete the MSME degree within the time allotted by the university.

**B. Graduate Course Requirements** – Graduate courses for the M.S.M.E. degree are divided into four categories as follows. Course requirements for the thesis and non-thesis option are provided in this section.

- I. Required general courses – category I
  - a. ME 5800 Graduate Colloquium (2 sem. @ 1 credit/sem.) – offered fall and spring
  - b. ET 6020 Technical Writing Seminar (1) – offered fall and spring semesters
  - c. Experimental Methods, Statistics or Engineering Analysis (3 credits): ME 5960, ME 6500, CHE 6100, PHYS 5041, MATH 5510, ISE 5200, CE 6000, PBIO 5150, BIOS 6700

- II. ME core courses – category II
  - a. ME 5XXX or above, of which at least 3 credits ME 6XXX or above (Pick 9 credits)

- III. Engineering Elective course – category III

These include any other graduate courses (5XXX or above) from Mechanical Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, or Industrial and Systems Engineering. Computer Science courses and courses outside the College of Engineering must have prior approval from the Graduate Chairman and must be related to the student's research plans. Up to three (3) credit-hours of ME 5930 Special Investigation may be used.

**Thesis option (30 credit-hours are required):**

1. All courses from category I (6 credit-hours).
2. Three courses from category II (9 credit-hours).
3. 3 credit-hours, engineering elective course from category II or III.
4. 3 credit-hours, minimum of ME 6940 (Research)
5. 9 credit-hours minimum of ME 6950 (Thesis). (6+9+3+3+9=30).

**Project (non-thesis) option (30 credit-hours are required):**

1. All courses from category I (6 credit-hours).
2. Six courses from category II (15 credit-hours).
3. 3 credit-hours, engineering elective course from category II or III.
4. 6 credit-hours minimum of ME 6940 (Research). (6+15+3+6=30).

Note, ME program is also offering Accelerated Graduate Pathways (AGP) program, which will allow undergraduate students to finish 'Project (non-thesis) option' in one year. It is a 4+1 program meaning 4 years of undergraduate and 1 year of graduate school allowing ME undergraduate students to finish both Bachelors and 'Project (non-thesis) option' MS in a total of 5 years. More details are provided in the end of this document.

**Courses:** ME courses are listed below to help the student develop a suitable plan of study. Note that some courses listed may not be offered.

**A. Energy**

- a. ME 5070 Fundamentals of Nuclear Engineering
- b. ME 5160 Combustion
- c. ME 5230 Fuel Cell Design
- d. ME 5270 Power Station Engineering
- e. ME 5310 Atmosphere Pollution Control
- f. ME 5350 Energy Engineering and Management
- g. ME 5400 Direct Energy Conversion
- h. ME 5750 Solar Design
- i. ME 7310 Transport Processes in Air Pollution Control

**B. Thermo-Fluids**

- a. ME 5110 Principles of Heating, Ventilation, and Air Conditioning
  - b. ME 5130 Conduction, Convection and Radiation
  - c. ME 5170 Design of Thermal Systems
  - d. ME 5220 Stirling Engine Machine Analysis
  - e. ME 5320 Analysis and Simulation of Transport Processes
  - f. ME 5460 Potential Flow
  - g. ME 5340 Fundamentals of Aerosol Behavior
  - h. ME 5470 Viscous Flow Theory
  - i. ME 5950 Kinetic Theory and Statistical Thermodynamics
  - j. ME 7120 Advanced Heat Transfer
  - k. ME 7140 Convection Heat Transfer
  - l. ME 7330 Numerical Heat Transfer and Fluid Flow
  - m. ME 7620 Topics in Non-Newtonian Fluid Dynamics
- C. Robotics and Dynamics**
- a. ME 5290 Robotic Manipulators
  - b. ME 5550 Mechatronics
  - c. BME 5670 Engineering Biomechanics
  - d. ME 6040 Mechanics and Control of Multi-Degree of Freedom Systems
  - e. ME 6050 Intermediate Dynamics
  - f. ME 6100 Advanced Vibrations Analysis
  - g. ME 6010 Advanced Systems Analysis and Control
  - h. ME 7050 Advanced Dynamics
- D. Mechanics of Materials**
- a. ME 5620 Mechanics of Metal Forming
  - b. ME 5630 Mechanics of Materials
  - c. ME 5660 Mechanics of Biological Solids
  - d. ME 6150 Thermal Stress Analysis
  - e. ME 6630 Advanced Mechanics of Materials
  - f. ME 6750 Destructive Testing of Materials
  - g. ME 7200 Advanced Nonlinear Finite Element Analysis
  - h. ME 7510 Advanced Computer Aided Design
  - i. ME 7600 Advanced CAD/CAM/CAE of Dies and Molds
  - j. ME 7840 Fracture and Fatigue of Engineering Materials
  - k. ME 7850 Plasticity: Theory and Application
- E. Machine and Automotive Design**
- a. ME 5760 Automotive Engineering
  - b. ME 5770 Vehicle Systems Design
  - c. ME 5940 Advanced Machine Design
  - d. ME 5960 Experimental Methods in Design
- F. Engineering Mathematics**
- a. ME 6590 Introduction to Finite Element Methods
  - b. ME 6970 Engineering Analysis and Numerical Methods
  - c. ME 7450 Advanced Topics in Numerical Methods
  - d. ME 7970 Advanced Engineering Analysis
- G. Seminar, Thesis, Research and Special Topics**
- a. ME 5800 Graduate Colloquium
  - b. ME 5930 Special Investigation
  - c. ET 5950 Robe Leadership Seminar
  - d. ME 6910 Graduate Internship
  - e. ME 6940 Research
  - f. ME 6950 Thesis
  - g. ME 7800 Doctoral Colloquium
  - h. ME 7900 Special Topics in Mechanical Engineering
  - i. ME 7930 Special Investigations

## C. Thesis Guidelines

1. The committee for the thesis option will consist of four (4) members. At least two shall be ME faculty, the third may be faculty from other engineering departments, and one must be external to the Russ College. All committee members must be college-approved graduate research faculty. Before the proposal defense, the external representative and committee must be approved.
2. Thesis work must conform to the university policy on plagiarism. Students should follow college guidelines to avoid plagiarism in their theses and in all academic work. Plagiarism guidelines are provided in Section E.
3. The committee guiding and approving the work must be finalized (see forms) at least three weeks prior to the proposal defense date.
4. Both the proposal and the final defense (thesis or dissertation) must be unanimously approved by the designated committee and the graduate chair.
5. A thesis or project proposal must be submitted or presented to the student's committee **at least three (3) months** before the final defense. Further the committee must approve the Plan of Study by the proposal defense date.
6. Students must adhere to all university thesis guidelines with regard to format, submission procedures and deadlines. This information is provided on the following website: <http://www.ohio.edu/graduate/etd>. The thesis and dissertation submission form, the oral defense forms, and the deadlines for thesis oral defenses are also obtained through this website or via Russ College Dean's office by contacting at [russgradinfo@ohio.edu](mailto:russgradinfo@ohio.edu).
7. Regarding deadlines: for the proposal defense, the department and Dean's office require two week notification, while the committee requires the proposal document at least two weeks before the defense.
8. For the actual thesis defense, the **final** thesis (pdf file) must be submitted to the College (Dean's) office at least two weeks before the defense for a plagiarism check. The student will be required to sign a form asserting originality of the work. *Instances of plagiarism will be referred to the University Judiciary for appropriate action.* Additionally, the thesis committee requires the thesis document for review at least two weeks in advance of the proposed defense date, however any committee member can require more time for thesis review.
9. The thesis proposal and thesis defense scheduling form must be approved by the advisor before it is given to the graduate chair for signature. This form must also be submitted to the graduate chair at least two weeks prior to the defense date.
10. Students are expected to use a consistent style for citations of the work of others in any document (ASME, Chicago Manual of Style, ACS or another accepted format). It is strongly encouraged that students manage their citations (websites, journal articles, books, etc.) using software such as zotero (<http://www.zotero.org/>) or the "Manage Sources" feature (under the "References" tab) in Microsoft Word.
11. Use the ASME website as a resource for your thesis, referring to **Guidelines and Information, [Writing a Technical Paper or Brief:](http://journaltool.asme.org/Help/AuthorHelp/WebHelp/JournalsHelp.htm)** <http://journaltool.asme.org/Help/AuthorHelp/WebHelp/JournalsHelp.htm>.
12. After the student has successfully defended his/her thesis, signed copies of the "report of the oral exam" (thesis approval form) must accompany the final thesis.
13. Prior to ME department approval for graduation, all keys and items borrowed from the department must be returned to the ME Department Office.

#### **D. Role of External Thesis Committee Member**

One thesis committee member must be from outside of the Russ College of Engineering and Technology (such as from Physics, Chemistry, Math, Business, or Biology). This faculty member must have graduate faculty status in his/her college. In special cases it may be possible to have a college representative from another University. If the college representative is from a college that does not specify graduate faculty status, the faculty member must be engaged in teaching graduate courses, advising graduate students and publishing research results.

##### **1. Basic Requirements**

- a. This member must be able and willing to assess the general "technical quality of the work" in comparison to the expectations for Ohio University graduate students and judge whether the work is "thesis worthy" or "dissertation worthy". The college representative is not expected to have expertise in the technical content of the thesis, but to make sure that good research methods were used.
- b. This member must be able and willing to assess the general "quality of the thesis document" in comparison to the expectations for Ohio University graduate students and judge whether the written document is of acceptable quality for a thesis or dissertation. The Introduction and Literature Search should be understandable to any educated reader, and the citations must meet an acceptable standard. The college representative is not expected to act as an editor, but rather as an assessor.

##### **2. Basic Expectations**

- a. The member is expected to read the thesis proposal document and participate in the in the proposal defense (approximately 3 hour time commitment).
- b. The member is expected to read the thesis document and participate in the thesis defense (6 to 8 hour time commitment).
- c. The member is expected to notify the graduate chair of the M.E. department or the college's Assistant Dean for research of any concerns with the thesis advisor or the overall process.

#### **E. Plagiarism Guidelines Introduction**

Plagiarism is using someone else's published ideas or words, without giving them the appropriate credit, so that you appear to be the original creator or author. Even if you change a few words of someone else's sentence, it is *still* plagiarism if the same idea is presented and not properly cited.

Plagiarism is a form of academic misconduct that is prohibited by the Student Code of Conduct. It is unacceptable in all academic work and all documents that you author, including assignments and project reports. Since published documents are stored and accessed in public places, it is quite possible that a published paper, thesis, or dissertation can be accused of plagiarism, perhaps years after it is published.

When you write a thesis/dissertation that includes discussion of results from other documents, plagiarism may creep in unintentionally. Therefore, it is particularly important that you recognize plagiarism and make special efforts to avoid it.

Plagiarism can also have legal consequences. Because of the Berne copyright convention, virtually all published material (including on-line, internet material) should be considered to have copyright protection whether it has a copyright notice or not.

## **Suggestions to help you avoid plagiarism**

1. Take written notes when you read. Avoid copying complete sentences unless you want to quote the sentence.
2. Take some time (i.e., a day) after reading the original source text to write your draft.
3. Don't draft your paper with the original source text (or a photocopy) open next to you. Use your notes. Go back to the source to check anything of uncertainty.

You can use other peoples' ideas and words as long as you give them appropriate credit. There are established methods of giving credit to your source of ideas and words.

## **Frequently Asked Questions (FAQ) about Plagiarism**

- Is it still plagiarism if I didn't intentionally copy someone else's work and present it as my own, that is, if I plagiarized it by accident?

Yes, it is still plagiarism. Colleges and universities put the burden of responsibility on students for knowing what plagiarism is and then making the effort necessary to avoid it. Leaving out the quotation marks around someone else's word or omitting the attribution after a summary of someone else's theory may be just a mistake (a matter of inadequate documentation) but faculty can only judge what you submit to them, not what you intended.

- If I include a list of works consulted at the end of my papers, doesn't that cover it? No. A works-cited list (or bibliography) tells your readers what you read but does not indicate how and where this material has been used in your paper. Putting one or more references at the end of a paragraph containing source material is a version of the same problem. The solution is to cite the source at the point that you quoted, paraphrased, or summarized it. To be even clearer about what comes from where, also use what are called in-text attributions. See the next FAQ on these.
- What is the best way to help my readers distinguish between what my sources are saying and what I'm saying?

Be overt. Tell your readers in the text of your paper, not just in citations, when you are drawing on someone else's words, ideas, or information. Do this with phrases like "According to ..." or "As noted in ...", so-called in-text attributions.

- Are there some kinds of information that I do not need to cite?

Yes. Common knowledge and facts you can find in almost any encyclopedia or basic reference text generally don't need to be documented (that is, John F. Kennedy became president of the United States in 1960). This distinction can get a little tricky because it isn't always obvious what is and is not common knowledge. Often, you need to spend some time in a discipline before you discover what others take to be known to all. When in doubt, cite the source.

- If I put the information from my sources into my own words, do I still need to include citations?

Yes. Sorry, but rewording someone else's ideas doesn't make it your own.

Paraphrasing is a useful activity because it helps you to better understand what you are reading, but paraphrases and summaries have to be documented and carefully distinguished from ideas and information you are representing as your own.

- If I don't actually know anything about the subject, is it okay to hand in a paper that is taken entirely from various sources?

Its okay if (1) you document the borrowings and (2) the assignment called for a summary. Properly documented summarizing is better than plagiarizing, but most assignments call for something more. Often comparing and contrasting your sources

will ideas, so that you can have something to contribute. If you're really stumped, go see the professor.

- Is it plagiarism if I include things in my paper that I thought of with another student or a member of my family?

Most academic behavior codes, under the category called "collusion," allow for students' cooperative efforts only with the explicit consent of the instructor.

The same general rule goes for plagiarizing yourself, that is, for submitting the same paper in more than one class. If you have questions about what constitutes collusion in a particular class, be sure to ask your professor.

- What about looking at secondary sources when my professor hasn't asked me to do this? Is this a form of cheating?

It can be a form of cheating if the intent of the assignment was to get you to develop a particular kind of thinking skill. In this case, looking at others' ideas may actually retard your learning process and leave you feeling that you couldn't possibly learn to arrive at ideas on your own. Professors usually look favorably on students who are willing to take the time to do extra reading on a subject, but it is essential that, even in class discussion, you make it clear not to present others' ideas as your own. In class discussions, if you bring up an idea you picked up on the Internet, be sure to say so explicitly.

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David Rosenwasser & Jill Stephen, *Writing Analytically, Third Edition*, Thomson/Heinle, USA, 2003, p. 177.

#### **F. Non-Thesis Option**

- This option is not available to students receiving support from the department or college.
- Students in the non-thesis option will have a committee of at least two ME faculty members for their projects.
- Non-thesis students must write a short project proposal, and it must be approved by the committee **at least three (3) months** prior to completion of the work and submission of the project report. A project proposal form signed by the committee must be submitted along with approvals of the final Plan of Study.
- A proposal presentation and final oral defense are required.
- Non-thesis students must complete a minimum of six (6) hours of ME 6940. The advisor must submit a special grade report to credit six (6) hours of ME 6940 when the project is completed.
- The final project report in pdf file format must be submitted to the Russ College graduate program administrator at least two weeks before the student submits it to the committee for final approval, in order for a plagiarism check to be conducted. The student will be required to sign a form asserting originality of the work. Instances of plagiarism will be referred to the University Judiciary for appropriate action.

#### **G. Additional Notes on Program Guidelines**

- Violation of department guidelines may result in expulsion from the program or revocation of financial aid.
- Plagiarism, cheating or other unethical behavior may result in the student being reported to the University Judiciary Committee for appropriate action.
- Special cases which do not fall within these guidelines or require a waiver of a guideline will be decided upon by the graduate committee.



- Students are not allowed to take any courses outside the program of study without approval by their advisor and the graduate chair. Generally, approval requires the student to have completed at least five (5) courses from the recommended list of courses (Groups I, and II) and received committee approval for their research proposal.
- Financial aid may be withheld or cancelled by the department graduate committee if a student does not follow his or her Plan of Study.
- All students must sign a Statement of Originality when they submit their thesis.

## H. Information for International Students

- International students should consult the office listed below for rules and regulations of the United States Citizenship and Immigration Service (USCIS).  
Office of International Affairs  
International Student and Faculty Services (ISFS) 348 Baker University Center, 1  
Park Place Athens, OH 45701  
Phone: (740)593-4330 web: <http://www.ohio.edu/isfs>
- Note that for international students, the visa rules restrict the number of employment hours.
- **Curricular Practical Training (CPT) for F-1 Students:** An overview of this internship program and its requirements are available from the ISFS office. In addition, these requirements must be met for CPT approval by M.E.:
  - The student must have completed all course requirements and made significant progress on the thesis/project. An acceptable draft of the thesis/project must be approved by the advisor. The graduate chairman will review the draft before signing the CPT papers.
  - The student must be committed to returning to the program of study after the CPT (within a maximum of 1 year) and make progress towards completing the program of study during the year by spending some time on the research and/or writing/correcting the thesis document.
  - In the event that the student does not make reasonable progress in completing the program of study (as determined by the M.E. graduate committee) within one year after obtaining the CPT, the graduate committee, in consultation with the advisor, will initiate steps to drop the student from the program.
  - For CPT approval, the student's Plan of Study must include a 1 credit-hour internship course (ME 6910), and the plan must be signed by all members of the thesis/project committee. The credit hours for this internship cannot be used to satisfy course credit hour requirements for graduation. The student must also submit a "report of activities" and the end of each semester in which ME 6910 is registered. The report must describe the work activities of the CPT for that semester and how it relates to the student's M.S.M.E. education.
- **Optional Practical Training (OPT) for F-1 Students:** An overview of this work experience program and its requirements are available from the ISFS office. In addition, the following requirements must be met for OPT approval by the M.E. Department.
  - The student must have completed all course and credit-hour requirements.
  - **The student must have a final thesis or project draft completed at the time of OPT application.** This draft must be acceptable to the advisor as a

- final draft. The graduate chairman will review the draft before signing the OPT papers.
- The student must defend the thesis/project before the OPT assignment begins.

## **I. Guidelines for Teaching or Graduate Assistant (GA)**

Graduate appointment information and policies are given on the following website: <https://www.ohio.edu/graduate/current-students/appointments-details>. Each GA is expected to work 20 hours/week. To fulfill this requirement, the GA will:

- Contact the assigned faculty supervisor as soon as possible.
- Meet the faculty supervisor on a regular, weekly schedule.
- Provide contact phone number and e-mail address to faculty supervisor.
- Assist in compiling course material and setting-up course equipment as required.
- Establish and maintain office hours for student consultation and your post office hours.
- Grade homework on a timely basis.
- Attend all assigned lecture classes and laboratory sessions.
- All GA's must be present during assigned class or laboratory hours and office hours as assigned by their supervisor.
- Students with graduate appointments are not permitted to work more than 20 hours weekly on or off campus. A student cannot have a graduate appointment for 20 hours and, also, work an hourly or contract position. See "Graduate Appointment Information and Policies," Requirements to Maintain Your Graduate Appointment, Item 1.
- All GA's are expected to conduct themselves in a professional and ethical manner, especially in regards to contact with undergraduate students, and in proper use and maintenance of University equipment.

If the GA does not perform according to the above guidelines, the GA contract will be terminated.

All GA's will be evaluated by faculty supervisors at the end of the semester to determine if their performance was satisfactory for the semester. This will be used to determine eligibility for future GA assignments.

## **J. Forms**

There are several forms that needed for your successful progression toward attaining a degree. Contact the Russ College graduate program administrator ([russgradinfo@ohio.edu](mailto:russgradinfo@ohio.edu)) for the latest version.

- A. M.S.M.E. Plan of Study
- B. M.E. Ph.D. Plan of Study
- C. Arrangement of Committee Approval Form
- D. Arrangement for Oral Defense of Proposal
- E. Arrangement for Oral Defense of Thesis, Dissertation, or Project
- F. Russ College of Engineering and Technology Proposal of Thesis, Dissertation or Project - Approval Form
- G. Report of Oral Thesis Examination (Thesis, Dissertation or Project) Defense
- H. M.S. Research Project Report of Oral Examination

## **K. Accelerated Graduate Pathways (AGP)**

Under this program, undergraduate students can take up to 9 graduate credits while completing their undergraduate study. These 9 credits will count both towards their undergraduate and 'Project (non-thesis)' MS degree allowing them to finish both degrees in 5 years; 4 years undergraduate + 1 year graduate. A simple outline of AGP is presented next:

<b>AGP, MSME (4+1) Program</b>		
<b>AGP credits</b>	<b>Fall</b>	<b>Spring</b>
9 graduate credits while undergraduate	10 graduate credits in Fall	11 graduate credits in Spring
ME 5XXX (3)	ME 5800 (1)	ME 5800 (1)
ME 5XXX (3)	ME 5/6XXX - Exp. Meth., Stats or Engr. Analysis (3)	ME 6020 (1)
ME 5XXX (3)	ME 5XXX(3)	ME 6XXX (3)
	ME 6940 (3)	ME/CE/CHE/EE/ISE 5XXX (3)
		ME 6940 (3)