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Materials Science and Engineering
BS/MS Program

The Department of Materials Science and Engineering offers a combined BS/MS degree program intended to foster undergraduate research and to accelerate progress toward a M.S. degree. This is a research intensive degree and offers students interested in expanding their research skills the opportunity to work in a research lab.

Only full time domestic students currently enrolled in Major Status in the Materials Science and Engineering program can be admitted to the combined BS/MS Program. **International students are not eligible for the BS/MS degree.**

Important Department People You Should Know

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**Director of Graduate Studies**
Professor Michael Scarpulla
# Materials Science and Engineering Teaching Faculty

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Area of Specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Dmitry Bedrov</td>
<td>Computational Polymers</td>
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<td><a href="mailto:d.bedrov@utah.edu">d.bedrov@utah.edu</a></td>
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<td>Professor Reaz Chaudhuri</td>
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<tr>
<td>Professor Shelley Minteer</td>
<td>Biofuel Cells/Explosive Sensing</td>
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<td>Ceramics</td>
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<td>Professor Taylor Sparks</td>
<td>Ceramics</td>
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<td>Professor Ling Zang</td>
<td>Nanomaterials</td>
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<td><a href="mailto:lzang@eng.utah.edu">lzang@eng.utah.edu</a></td>
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</tbody>
</table>

Academic Year 2016-2017
Program Description

For undergraduate students interested in a vigorous pursuit of research the BS/MS program allows the student to expand the research of the student’s Senior Design Project to a M.S. thesis. The Senior Design requirements still must be met to complete the B.S. requirements.

The M.S. portion of the Research Project should be an expansion on the research that was done to complete the B.S. portion of the Senior Design as well as working with the same advisor as explained below:

- When a student interested in the BS/MS degree is discussing their research interest with an MSE faculty advisor, the student should explain in detail the elements of the Senior Design Project and the M.S. Research Project with the faculty prior to applying for this degree.

- Once a faculty advisor has agreed to work with the student on their Senior Project and the expanded research for their M.S. degree, the student and faculty will write a progress report for the student and faculty advisor to use as a guideline during the next two years. A copy of this progress report will be forwarded to the Academic Advisor to become part of the student’s departmental academic records.

- Students applying for the BS/MS Program must document the means of financial support which will cover all tuition and fees for their last year of the BS/MS Program (MS year). This can be a commitment letter for a research assistantship from their faculty advisor or a statement of another form of financial support. Financial Support Documentation will be forwarded to the Academic Advisor to be placed in the student’s academic file.

- Students in the BS/MS degree program will begin working on the design portion of their senior projects during their junior year. Design Projects must meet the requirements as defined in the Senior Design Project Guidelines. The M.S. thesis topic is an extension of the required Senior Design Project with the addition of the hands on research in the advisors research lab. Student will begin working on the research portion of their degree upon completion of the Senior Design Project. The combined program is designed to be completed in five years and to culminate with the conferral of both the Bachelor of Science and Master of Sciences degrees. The B.S. degree portion of the combined degree requires the completion of 122 semester credit hours. The M.S. degree requires the completion of 30 additional hours. The standard B.S. degree requires 126.5 hours.
Upon completion of the BS/MS degree, the student will receive both degrees at the College of Engineering Convocation Ceremony. Graduation cannot be applied for through the Graduation Office until the student has completed BOTH degrees.

Application to Process

Application to BS/MS Program

Applicants for admission to the BS/MS program the student must have Major Status in the Department of Materials Science and Engineering at the University of Utah. A minimum 3.5 GPA is required for admission to the combined program. It is also suggested that an appointment be made with the Academic Advisor to make sure that all requirements and details for applying for the BS/MS program has been satisfied. Application for the combined program must be submitted to the Academic Advisor by April 1st of the student’s junior year. Students will be notified of admissions decisions by May 1st.

Application Requirements

Students should plan to have a total of two to three semesters in graduate status and may begin the process at the completion of the required 122 semester credit hours for the B.S. portion of the degree. Undergraduate status is maintained until the mid-program review. Any deviation from the Program of Study for the BS/MS Program must be approved by the Academic Advisor.

A separate application for Graduate School admissions will not be required until the mid-program progress review (at 122 hours). The Academic Advisor will inform the student when to apply to The Graduate School.

Along with the BS/MS application, students also submit the following supporting documentation:

- Current Degree Audit Report (DARS)
- Three Letters of Recommendation
- One of the three letters must come from the senior design project advisor that has committed to serve as the student’s M.S. thesis advisor. The faculty advisor must
confirm in the recommendation letter that support will be provided and briefly outline the M.S. Thesis Research Project.

- Personal Statement
- In the personal statement the student must clearly indicate at the beginning of the personal statement that the application is for the BS/MS degree. The student must provide their understanding and brief description of the M.S. Thesis Project in the personal statement. Also in the statement is why the student chose to study for a BS/MS degree.

**Honor Student’s Requirements**

If a student is an Honors student, completing an Honors B.S. Degree, it is necessary to make an appointment with the MSE Academic Advisor. Since the requirements to complete the combined degree are different, it is important that you meet with the MSE Academic Advisor.

**Admission to the Graduate School**

BS/MS students may request transfer to graduate status after the completion of 122 semester credit hours of qualified studies. The student must follow the regular University of Utah Graduate School application procedures. On the referral sheet that the MSE Department returns to the Graduate Admissions Office, the MSE Department will note the student has been accepted to the BS/MS program. Graduate Admissions will then approve admission without the B.S. having been completed.

Admission to the combined degree program guarantees admission to the Graduate School as long as a minimum GPA of 3.5 is maintained. The successful admission into the program is simply a matter of addition paperwork. Please note that application deadline is January 15th for Fall Semester.

Entrance criteria for the BS/MS program is consistent with criteria for the traditional M.S. program. Once the application is received it will be processed and decisions are made by the Materials Science and Engineering Graduate Committee.
Program Requirements

BS/MS Program Requirements

During the first semester of the program, students must complete a combined degree Program of Study. The MSE Academic Advisor will review the student’s B.S. Program of Study and also check the M.S. Program of Study to be sure that it is consistent with the M.S. program. Forms are available from the MSE Academic Advisor.

B.S. and M.S. Program Requirements

Students must complete a minimum of 152 semester credit hours of qualified studies. A minimum of 122 semester credit hours must meet the B.S. requirements of the Department of Materials Science and Engineering. A minimum of 30 semester credit hours must meet the M.S. requirements of the Department of Materials Science and Engineering.

Students are still required to complete and present their Senior Design Project. In addition, students must fulfill the complete M.S. Program as stated in the Graduate Handbook of the year they enter the combined program.

Program of Study

The following Program of Study is for undergraduate students admitted into the combined BS/MS Program. Students will take an additional 11 credit hours of coursework in the fifth year of the combined program that is closely related to their area of research along with 10 credit hours of thesis research and 1 hour of graduate seminar.
Typical Student Program of Study for the BS/MS Program

<table>
<thead>
<tr>
<th>Junior Year-Spring Semester</th>
<th>Senior Year-Fall Semester</th>
<th>Senior Year-Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enroll in MSE 5090</td>
<td>Enroll in MSE 5098</td>
<td>Enroll in MSE 5099</td>
</tr>
<tr>
<td>Choose Senior/M.S. Thesis Advisor</td>
<td>Undergraduate Coursework</td>
<td>Undergraduate and Graduate Coursework</td>
</tr>
<tr>
<td>Apply for Combined Status</td>
<td>Develop both B.S. and M.S. Programs of Study</td>
<td>Complete B.S. Degree Requirements</td>
</tr>
</tbody>
</table>

**Graduate – Fall Semester**

<table>
<thead>
<tr>
<th>Enroll in MSE 6001</th>
<th>Graduate Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Coursework</td>
<td>Enroll in MSE 6002</td>
</tr>
<tr>
<td>Official M.S. Program of Study Submitted to Graduate School</td>
<td>Enroll in MSE 6970</td>
</tr>
<tr>
<td>Complete Graduate Coursework Thesis Defense (M.S.)</td>
<td></td>
</tr>
</tbody>
</table>

**REMINDER TO BS/MS STUDENTS – DEGREE COMPLETION DEADLINE IS SUMMER SEMESTER**

**M.S. Research Supervisory Committee**

**Filing the Request for Supervisory Committee Form**

Once the student has been officially admitted to the graduate program the student will form a M.S. Supervisory Committee and submit the *Request for Supervisory Committee* to the MSE Academic Advisor.

The Supervisory Committee must consist of three University of Utah faculty members. The chair of the committee must have a tenure track faculty appointment in the Department of Materials Science and Engineering and must be the same advisor as the Senior Design Project. At least one member on the committee must also be a tenure track faculty in the Materials Science Department. The second member can be outside the Materials Department but must be approved by the chair of the supervisory committee. Once the Supervisory Committee Form is complete it must be approved by the Chair of the Materials Science and Engineering Department.
Application for Admissions to Candidacy

Filing the Application for Admission to Candidacy for Master’s Degree Form

Within one semester after official admission to the graduate program, the student must submit a combined degree Program of Study to the MSE Academic Advisor. The deadline for completing the B.S. degree must be completed within one year of admission to the Graduate School. The Application for Admission to Candidacy form must be approved and signed by the M.S. Supervisory Committee.

Petition for Graduate Credit

Petition for graduate courses should be obtained from the Registrar’s Office and be completed by Fall Semester of the graduate year by the student before the Application for Admissions to Candidacy can be approved by The Graduate School. Students are required to submit the petition for graduate credit to the MSE Academic Advisor for Departmental approval. Students are then required to submit the completed and approved form to the Registrar for processing. Once this petition has been approved by the Registrar’s Office, the courses that were moved to the graduate career cannot be moved back to the undergraduate career to clear requirements for the completion of the undergraduate degree.

Graduation from the BS/MS Program

Upon successful completion of the combined degree program, both the Bachelor’s and Master’s degrees are awarded simultaneously. Students must apply for graduation to the Registrar’s Office for both the Bachelor’s and Master’s degree to be awarded in the appropriate semester. Both applications must be completed and turned into the Graduation Office by the deadline for the appropriate semester. Students must satisfy all the Department of Materials Science and Engineering and University of Utah requirements for each degree. Reminder that Coursework may not be applied to more than one degree.
Refer to: http://www.sa.utah.edu/regist/graduation/applying.html for the deadlines and application requirements.

Both the B.S. and the M.S. degrees must be completed by Summer Semester of the Graduate Year. Otherwise the BS/MS program track will be terminated and the 5000 level courses will need to be retaken to successfully complete the B.S. degree.

If additional information is required contact the MSE Academic Advisor for an appointment.