

## Materials Science & Engineering

### Materials Science Engineering (MATSCIE)

<b>220</b>	<b>Intro Mat &amp; Man</b>	<b>4.00</b>	<b>ENFORCED</b>
11497	A R LEC 100 MWF	1130-1230PM	REMOTE Sevener
11498	P RW DIS 101 TH	1130-1230PM	REMOTE Brandt
11499	P RW DIS 102 TH	130-230PM	REMOTE Day
11500	P RW DIS 103 TH	1030-1130AM	REMOTE Caro
27086	P RW DIS 104 TH	230-330PM	REMOTE Day
30520	P RW LEC 200 MW	1130-130PM	REMOTE Yalisove
This special section of MSE 220 will be a team based and project based version of the class where the first introduction to the material is NOT lecture, but rather annotated reading. Class time will consist of active learning activities. There will be three group projects in this class. Students will be required to purchase an electronic textbook via the Canvas site that will be live in August. Students will also be required to purchase a subscription to Learning Catalytics (\$12). There are no other fees for the course. Homework is graded for effort and honesty - not accuracy. Quizzes are graded by averaging a closed book, closed notes, individual effort, with an open book, open internet, group effort. You will be rewarded for hard work and honesty on homework and exams without the angst of 100% summative assessment. Do not purchase the book at this time. More information will be available on the following website: <a href="http://java.engin.umich.edu/220F20">http://java.engin.umich.edu/220F20</a>			
25135	A R LEC 300	ARR	REMOTE Heron
25298	P RW DIS 301 TH	1030-1130AM	REMOTE
25299	P RW DIS 302 TH	230-330PM	REMOTE
33917	P RW DIS 303 TH	1130-1230PM	REMOTE Heron
<b>250</b>	<b>Prin Engr Matl</b>	<b>4.00</b>	<b>ENFORCED</b>
11501	A R LEC 100 MWF	930-1030AM	1013 DOW Wynarsky
Structure, properties, and processing relationships in engineering materials with applications to biomaterials.			
11502	P RW DIS 101 TH	1130-1230PM	1013 DOW Singhal
20228	P R DIS 102 TH	130-230PM	2505 GGBL Zhang
20322	P R DIS 103 TH	1030-1130AM	1610 IOE Shah
39655	P R DIS 701 TH	1130-1230PM	1005 DOW
39656	P R DIS 702 TH	1030-1130AM	1017 DOW
39231	A R LEC 800 MWF	930-1030AM	1013 DOW Wynarsky
39543	P R DIS 801 TH	1130-1230PM	1013 DOW Singhal
39544	P R DIS 802 TH	130-230PM	2505 GGBL Zhang
39545	P R DIS 803 TH	1030-1130AM	1610 IOE Shah
<b>280</b>	<b>MSE Ugrad Res Opp</b>	<b>1.00-3.00</b>	<b>ADVISORY</b>
	I IND +	ARR	ARR
<b>330</b>	<b>Thermo of Matls</b>	<b>4.00</b>	<b>ENFORCED</b>
11508	P R LEC 001	ARR	REMOTE Shahani
<b>330</b>	<b>Thermo of Matls</b>	<b>4.00</b>	<b>ENFORCED</b>
	P R LEC 001 F	1230-130PM	REMOTE
<b>350</b>	<b>Structures of Matls</b>	<b>4.00</b>	<b>ENFORCED</b>
11503	P RW LEC 001	ARR	REMOTE Qi
<b>350</b>	<b>Structures of Matls</b>	<b>4.00</b>	<b>ENFORCED</b>
	P RW LEC 001	ARR	REMOTE
<b>360</b>	<b>Materials Lab I</b>	<b>3.00</b>	<b>ADVISORY, ENFORCED</b>
11504	S R LEC 001 M	130-230PM	REMOTE Chambers
Labs for MSE 360 are held in the Van Vlack Undergraduate Lab, second floor of the H.H. Dow building			
11505	P RW LAB 002 T	130-530PM	2224 DOW Lien
	P RW LAB 002 T	130-530PM	2150 DOW
15049	P RW LAB 003 W	130-530PM	2224 DOW Cardoza
	P RW LAB 003 W	130-530PM	2150 DOW
11506	P RW LAB 004 TH	12-4PM	2224 DOW Cheng
	P RW LAB 004 TH	12-4PM	2150 DOW
40262	P R LAB 802 T	130-530PM	REMOTE Lien
40263	P R LAB 803 W	130-530PM	REMOTE Cardoza
40264	P R LAB 804 TH	12-4PM	REMOTE Cheng
<b>400</b>	<b>EMO Mod Dev Tech</b>	<b>3.00</b>	<b>ENFORCED</b>
32488	P R LEC 001	ARR	REMOTE Kioupakis
<b>410</b>	<b>Biomaterials</b>	<b>3.00</b>	<b>ENFORCED</b>
15292	P RW LEC 001 MW	10-1130AM	REMOTE Mehta
<b>412</b>	<b>Polymeric Materials</b>	<b>3.00</b>	<b>ENFORCED</b>
11507	P R LEC 001	ARR	REMOTE Love
<b>420</b>	<b>Mech Behavior Matrls</b>	<b>3.00</b>	<b>ADVISORY, ENFORCED</b>
15465	P R LEC 001 TTH	230-4PM	REMOTE Sevener
<b>454</b>	<b>Comp Approaches MSE</b>	<b>3.00</b>	<b>ENFORCED</b>
30429	P R LEC 001 F	1230-2PM	REMOTE
<b>454</b>	<b>Comp Approaches MSE</b>	<b>3.00</b>	<b>ENFORCED</b>
	P R LEC 001 W	12-130PM	REMOTE Thornton
This class will be held in the Van Vlack Undergraduate Lab, second floor of the H.H. Dow building.			
<b>470</b>	<b>Phys Met</b>	<b>3.00</b>	<b>ADVISORY, ENFORCED</b>
30268	P R LEC 001 TTH	10-1130AM	REMOTE Allison
<b>481</b>	<b>Design Sustain Prod</b>	<b>3.00</b>	<b>ENFORCED</b>
34001	P R LEC 001 MW	3-430PM	1017 DOW Taub, Mangin
<b>490</b>	<b>Research Problems</b>	<b>1.00-3.00</b>	<b>ENFORCED</b>
	DR IND +	ARR	ARR
<b>510</b>	<b>Materials Chem</b>	<b>3.00</b>	<b>ADVISORY</b>

CAT# Class #	Course Title CODE CMP SEC	DAYS	TIME	LOCATION	CR INSTRUCTOR	PREREQ	LAB FEE
34536	P LEC 100	TTH	830-10AM	REMOTE	Bartlett		
<b>515</b>	<b>Poly Matrls</b>				<b>3.00</b>	<b>ADVISORY</b>	
32631	P LEC 001	TTH	230-4PM	REMOTE	Tuteja		
<b>517</b>	<b>Adv Function Poly</b>				<b>3.00</b>	<b>ENFORCED</b>	
20676	P R LEC 001	TTH	430-6PM	REMOTE	Kim		
<b>532</b>	<b>Adv Therm Matrls</b>				<b>3.00</b>	<b>ADVISORY</b>	
16843	P LEC 001	MW	1-1AM	REMOTE	Sun		
<b>550</b>	<b>Fund Mat Sci &amp; Eng</b>				<b>3.00</b>	<b>ADVISORY</b>	
24761	P LEC 001	MW	830-10AM	1109 FXB	Li		
39218	P LEC 802	MW	830-10AM	1109 FXB	Li		
<b>554</b>	<b>Comput Methods</b>				<b>3.00</b>		
25244	P LEC 001	MW	1130-1PM	1014 DOW	Kieffer		
39219	P LEC 802		ARR	ARR			
<b>555</b>	<b>Mat Energy Conv</b>				<b>3.00</b>	<b>ENFORCED</b>	
32655	P R LEC 001	TTH	10-1130AM	REMOTE	Goldman		
<b>560</b>	<b>Structure Matrls</b>				<b>3.00</b>	<b>ADVISORY</b>	
18603	P LEC 001	MW	3-430PM	REMOTE	Poudeu-Poudeu		
<b>562</b>	<b>Electron Microscopy I</b>				<b>4.00</b>	<b>ADVISORY</b>	
28952	P LEC 001	MW	1-230PM	1670 BEYSTER	Hovden		
Lab for MSE 562 will be held in the MC@ Center of NCRC North Campus Research Center Building 22							
28953	S LAB 002	T	130-430PM	ARR	Hovden		
39240	P LEC 802	MW	1-230PM	1670 BEYSTER	Hovden		
<b>593</b>	<b>MSE Special Topics</b>				<b>3.00</b>	<b>ADVISORY</b>	
36123	P LEC 001	MW	12-130PM	1500 EECS	Singh		
Electrochemistry Apps & Engrg Electrochemistry Applications and Engineering - This course will serve to give students exposure to applications of electrochemistry in the production of chemicals and metals, energy storage, sensors, and material protection (i.e., controlling corrosion). Part of the course will discuss basic electrochemistry concepts, so a background in electrochemistry is not required, but a majority of the course will focus on applications, and electrochemical techniques, e.g., electrochemical impedance spectroscopy, which can be used to understand charge transfer, double layer formation and capacitance, and solution resistances. In addition, some of the practical aspects of research electrochemistry will be discussed, including applying fundamental concepts to research. The engineering behind electrochemical reactor design will also be covered, including touching on the economics and performance metrics for industrial systems, and future avenues in electrochemical processes.							
31288	P LEC 019	MW	12-130PM	3427 EECS	Laine		
Battery Basics Battery Basics - The electrification of society is proceeding at an extremely rapid pace. There are insufficient numbers of people trained in battery technologies to meet the growing need for individuals with the basic knowledge needed to serve society at entry level positions and above. This course is designed to provide, initially, basic understanding of battery design, assembly, and testing to entry level individuals. As time goes on, an advanced level of sophistication will be implemented based on learning from this first course. As envisioned, lectures provided will enable individuals to acquire basic knowledge that can eventually be used to qualify for a practical course in battery assembly and testing.							
41531	P LEC 801	MW	12-130PM	ARR	Singh		
39222	P LEC 802	MW	12-130PM	3427 EECS	Laine		
Battery Basics							
<b>690</b>	<b>Research Problems</b>				<b>1.00-16.00</b>		
	D IND +		ARR	ARR			
<b>890</b>	<b>Colloq in Mat Sci</b>				<b>1.00</b>		
19720	P R SEM 001	F	10-1130AM	REMOTE	Shahani, Hovden, Sun, Qi, Heron		
<b>990</b>	<b>Diss-Precand</b>				<b>1.00-8.00</b>	<b>ADVISORY</b>	
	D IND +		ARR	ARR			
<b>995</b>	<b>Diss-Cand</b>				<b>8.00</b>	<b>ENFORCED</b>	
	DR IND +		ARR	ARR			