

**College of Sciences** 

# PHYSICS MINOR

### NATURAL SCIENCES DEPARTMENT

# MINOR CHECKLIST FALL 2020 - SUMMER 2021

This checklist aids in placement of students into their minor coursework and documents the department evaluation of transferred credit and course waivers, based on coursework listed on the Degree Audit Report (DARs). A student must complete General Education and Liberal Studies (GELS) along with other requirements for graduation. Refer to your DARs for further details concerning your major and minor requirements. All coursework for the minor must be completed with the grade of C- or better.

Student Name	Metro State ID#	Admission Date or Semester
Advisor None	Fugluation Data	Declaration Date on Competer
Advisor Name	Evaluation Date	Declaration Date or Semester

### MATH AND FOUNDATION COURSES FOR MINOR

Each foundation science course must include at least one semester credit of professionally supervised, onground laboratory experience with standard undergraduate laboratory equipment and materials. Note: MATH courses are pre-requisites that do not count toward minor credit totals. PHYS 211 and 212 are foundation courses that count toward the 20 credit requirement.

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
MATH 115 OR MATH 120 OR Placement	College Algebra OR Precalculus				
MATH 210	Calculus I				
MATH 211	Calculus II				
PHYS 211	Calculus Based Physics I				
PHYS 212	Calculus Based Physics II				

# **ELECTIVE COURSE REQUIREMENT: 10 CREDITS**

A minimum of 10 credits from the following list of upper-division courses, or other advanced courses by advisor permission. At least 5 credits from the physics discipline may be combined with other listed disciplines to reach the total of 10 elective credits.

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
PHYS 351	Thermodynamics			5	
PHYS 355	Modern Physics			3	
PHYS 357	Modern Physics Lab			2	
PHYS 469	Seminars in Physics			1	
PHYS 479	Special Topics in Physics			1-5	
PHYS 489	Directed Research in Physics			1-5	
MATH 230	Introduction to Mathematical Modeling			2	
MATH 350	Ordinary Differential Equations			4	
MATH 420	Numerical Analysis			4	
MATH 430	Advanced Mathematical Modeling			2	

## ADDITIONAL NOTES, CREDIT TOTALS OR COMMENTS:

Academic advisor notes:		

### MAJOR AND MINOR REQUIREMENTS

A student must include at least 5-credits of coursework in the physics minor that is not counted as part of their major or other minor. Work with your academic advisor to assure both major and minor requirements are met when planning out your course load every semester towards graduation.

Minor Requirements Checklist	In Progress	Completed
20 credits minor requirement		
10 Metro State Major Credits		
5 upper-division minor credits		
5 credits unique to minor		

### NATURAL SCIENCES DEPARTMENT CONTACT INFORMATION

For specific questions about this major program or equivalencies of prior coursework at other institutions, contact the Chair of the Natural Sciences Department at:

Email: natural.sciences@metrostate.edu Web: www.metrostate.edu/natural-sciences

Tel: 651-793-1515



College of Sciences

### METROPOLITAN STATE UNIVERSITY

College of Sciences 700 East Seventh Street Saint Paul, MN 55106-5000

Tel: 651-793-1606 Email: COS@metrostate.edu

MINNESOTA STATE

Web: www.metrostate.edu/COS

A MEMBER OF MINNESOTA STATE

This information is available in alternative formats upon request by contacting the Center for Accessibility Resources, accessibility.resources@metrostate.edu or 651-793-1549. Information is subject to change without notice.

An equal opportunity educator and employer.