

Secondary Science Education - Biology
Bachelor of Science | Code: S9210 | 120 credits
CIP (1101313221)

Effective Term: Fall 2024 (2247)

Science Education is a crucial field that focuses on equipping educators with the foundational knowledge and methods needed to prepare them for a successful career in teaching middle and secondary school students. Not only does it involve the exploration of different theories and practices, but it also emphasizes the development of reflective and compassionate educators who can meet the needs of their students. By honing their skills in teaching and understanding, Science Education prepares teachers to make a positive impact on their students' lives, ultimately shaping their futures and inspiring them to pursue their passions in science and beyond.

Course	Course Title	Credits	Requisites
GENERAL REQUIREMENTS (36 credits required)			
COMMUNICATIONS (6.00 credits) **			
ENC 1101	English Composition 1	3	Prerequisite: Student must meet the Developmental Education reading and writing requirements in State Rule 6A-10.0315 (by course, placement score, or eligible exemption).
ENC 1102	English Composition 2	3	Prerequisite: ENC1101
ORAL COMMUNICATIONS (3.00 credits) **			
SPC 1017	Introduction to Communication	3	
SPC 2608	Introduction to Public Speaking	3	

HUMANITIES (6.00 credits) **

Select 1 course from State Core and 1 course from MDC Core.

State Core: Group A Courses: 3 credits

ARH 1000	Art Appreciation	3	
HUM 1020	Humanities	3	
LIT 2000	Introduction to Literature	3	Prerequisite: ENC1101
MUL 1010	Music Appreciation	3	
PHI 2010	Introduction to Philosophy	3	Prerequisite: ENC1101
THE 2000	Theatre Appreciation	3	

---AND---

MDC Core: Group B Courses: 3 credits

ARC 2701	History of Architecture 1	3	
ARC 2702	History of Architecture 2	3	
ARH 1000	Art Appreciation	3	
ARH 2050	Art History 1	3	
ARH 2051	Art History 2	3	Prerequisite: ARH2050
ARH 2740	Cinema Appreciation	3	Prerequisite: HUM1020
DAN 2100	Dance Appreciation	3	
DAN 2130	Dance History 1	3	
HUM 1020	Humanities	3	
IND 1100	History of Interiors 1	3	
IND 1130	History of Interiors 2	3	
LIT 2000	Introduction to Literature	3	Prerequisite: ENC1101
LIT 2120	A Survey of World Literature 2	3	Prerequisites: ENC1101, 1102 or equivalent
MUH 2111	Survey of Music History 1	3	
MUH 2112	Survey of Music History 2	3	Prerequisite: MUH2111
MUL 1010	Music Appreciation	3	
MUL 2380	Jazz and Popular Music in America	3	
PHI 2010	Introduction to Philosophy	3	Prerequisite: ENC1101
PHI 2604	Critical Thinking and Ethics	3	Prerequisite: ENC1101
THE 2000	Theater Appreciation	3	

MATHEMATICS (6.00 credits) **

Select one State Core course and one MDC Core course. Lab units are not allowed in this area.

State Core: Group A Courses: 3 credits

MAC 1105	College Algebra	3	Prerequisite: MAT1033
MAC 2311	Calculus and Analytical Geometry 1	5	Prerequisites: MAC1106 and MAC1114, or MAC1140 and MAC1114, or MAC1147
MGF 1130	Mathematical Thinking	3	Student must meet the Developmental Education mathematics requirements in State Rule 6A-10.0315 (by course, placement score, or eligible exemption)
MGF 1131	Mathematics in Context	3	Student must meet the Developmental Education mathematics requirements in State Rule 6A-10.0315 (by course, placement score, or eligible exemption)
STA 2023	Statistical Methods	3	Pre-Req MAT1033 or MGF 1131

--AND--

MDC Core: Group B Courses: 3 credits

MAC*	MAD*	MAP*
MAS*	MGF*	STA 2023
MTG 2204		

Note: Check with advisor for requisite information.

NATURAL SCIENCE (6.00 credits) ***Select 1 course from State Core and 1 course from MDC Core.***State Core: Group A Courses: 3 credits**

BSC 2010 Principles of Biology 3

Pre/Corequisites: BSC 2010L, CHM 1045

---AND---

MDC Core: Group B Courses: 3 credits

CHM 1045 General Chemistry & Qualitative Analysis 3

Prerequisites: CHM1025 or a passing score on the CART exam, MAC1105;
Corequisite: CHM1045L**SOCIAL SCIENCE (6.00 credits) *****Select 1 course from State Core and 1 course from MDC Core.***State Core: Group A Courses: 3 credits**

AMH 2020 History of the US Since 1877 3

POS 2041 American Federal Government 3

--AND--

MDC Core: Group B Courses: 3 credits

DEP 2000 Human Growth and Development 3

PSY 2012 Introduction to Psychology 3

GENERAL EDUCATION ELECTIVES (3.00 credits) **

EEX 2000 Introduction to Special Education 3

COMPUTER COMPETENCY

Test type(s) needed:

Computer Skills Placement (CSP)

Note: Students are strongly recommended to take the CSP exam.

---OR---

CGS 1060C Introduction to Computer Technology & Application

COMMON PREREQUISITES REQUIREMENTS (3.00 credits)

EDF 1005 Introduction to the Teaching Profession 3

LOWER DIVISION REQUIREMENTS (6.00 credits)

EDF 2085 Introduction to Diversity 3

EME 2040 Introduction to Technology for Educators 3

SCIENCE REQUIREMENTS (14.00 credits)**Group A: Biological Sciences**

BSC 2010L Principles of Biology 1 Laboratory 2

Corequisite: BSC2010

BSC 2011 Principles of Biology 2 3

Prerequisites: BSC2010, 2010L; Corequisite: BSC2011L

BSC 2011L Principles of Biology Lab 2 2

Prerequisites: BSC2010, 2010L; Corequisite: BSC2011

---AND---

Group B: Physical Sciences

CHM 1045L General Chemistry and Qualitative Analysis Lab 2

Prerequisites: CHM1025 or a passing score on the CART exam, MAC1105;
Corequisite: CHM 1045

CHM 1046 General Chemistry and Qualitative Analysis 3

Prerequisites: CHM1045, 1045L; Corequisite: CHM1046L

CHM 1046L General Chemistry & Qualitative Analysis Lab 2

Prerequisites: CHM1045, 1045L; Corequisite: CHM1046

SCIENCE ELECTIVES (3.00 credits)*Students must select 3 credits from the following group.*

BSC 1084 Functional Human Anatomy 3

BSC 2020 Human Biology: Fundamentals of Anatomy/Physiology 3

PROFESSIONAL EDUCATION CORE (18.00 credits)

EDF 4430 Measurement and Assessment in Education 3

EDG 3321 General Teaching Skills 3

EDG 3443 Classroom and Behavior Management 3

EEX 3071 Teaching Exceptional and Diverse Populations in Inclusive Settings 3

RED 3393 Differentiated Instruction in Content Reading 3

TSL 4324C ESOL Strategies for Content Area Teachers 3

DISCIPLINE CONTENT (17.00 credits)**Group A Courses: 12 credits**

PCB 3043 Fundamentals of Ecology 3

Prerequisites: BSC2011, 2011L

PCB 3060 Principles of Genetics 3

Prerequisites: BSC2010, 2010L, 2011, 2011L

SCE 4362 Methods of Teaching Science 3

Pre/Corequisite: EDF4430

SCE 4363 Advanced Topics in Science Education Practicum 3

Prerequisites: EDF4430, EDG3321, RED3393, SCE4362, TSL4324C;
Pre/Corequisites: EEX3071, SCE3893

---AND---

Group B Courses: 5 credits

MCB 2010 Microbiology 3

Prerequisites: BSC2010, 2010L or BSC 2085,2085L; CHM1033, 1033L or
CHM 1045, 1045L

MCB 2010L	Microbiology Laboratory	2	Prerequisites: BSC2010, 2010L or BSC 2085,2085L; CHM1033, 1033L or CHM 1045, 1045L; Corequisite: MCB 2010
---or---			
MCB 3023	Principles of Microbiology	3	Prerequisites: BSC2010, 2010L, 2011, 2011L, CHM 2211, 2211L; Corequisite: MCB3023L
MCB 3023L	Principles of Microbiology Lab	2	Prerequisites: BSC2010, 2010L, 2011, 2011L, CHM 2211, 2211L; Corequisite: MCB3023

ELECTIVES (11.00 credits)

BCH 3023	Introductory Biochemistry	3	Prerequisites: BSC2010, 2010L, 2011, 2011L, CHM 2211, 2211L; Corequisite: BCH3023L
BCH 3023L	Introductory Biochemistry Laboratory	2	Prerequisites: BSC2010, 2010L, 2011, 2011L, CHM 2211, 2211L; Corequisite: BCH3023
BOT 3015*	Survey of Plant Diversity	3	Prerequisites: BSC 2010, 2010L, 2011, 2011L; Corequisite: BSC 3015L
BSC 3930	Biological Sciences Seminar	1	Prerequisites: BSC2010, 2010L, 2011, 2011L
CHM 2210	Organic Chemistry 1	3	Prerequisites: CHM1046, 1046L; Corequisite: CHM2210L
CHM 2210L	Organic Chemistry 1 Laboratory	2	Prerequisites: CHM1046, 1046L; Corequisite: CHM2210
CHM 2211	Organic Chemistry 2	3	Prerequisites: CHM2210, 2210L; Corequisite: CHM2211L
CHM 2211L	Organic Chemistry 2 Laboratory	2	Prerequisites: CHM2210, 2210L; Corequisite: CHM2211
CHM 2200	Survey of Organic Chemistry	3	Prerequisites: CHM1046, 1046L; Corequisite: CHM2200L
CHM 2200L	Survey of Organic Chemistry Laboratory	2	Prerequisites: CHM1046, 1046L; Corequisite: CHM2200
PCB 3060L	Principles of Genetics Laboratory	2	Prerequisites: BSC2010, 2010L, 2011, 2011L; Corequisite: PCB3060
PCB 4674	Evolution	3	Prerequisites: BSC 2010, 2010L, 2011, 2011L, PCB 3060, 3060L
SCE 3893	Teaching and Learning the Nature of Science	3	
SOP2772	Human Sexuality	3	
ZOO 3021*	Survey of Animal Diversity	3	Prerequisites: BSC 2010, 2010L, 2011, 2011L

STUDENT TEACHING/INTERNSHIP (12.00 credits)

SCE 4943	Seminar in Science Education	3	Corequisites: SCE4945
SCE 4945	Internship in Science Education	9	Corequisites: SCE4943

Important Information

Civic Literacy Competency: Prior to the award of an associate in arts or baccalaureate degree, first-time-in-college students entering a Florida College System institution in the 2021-2022 school year, and thereafter must demonstrate competency in civic literacy. This requires both a passing grade (A, B, C, D, or S) in AMH 2020 **or** POS 2041 **AND** a passing score on the Florida Civic Literacy Examination (FCLE) (**or** an equivalent AP or CLEP exam). General education courses require grade of C or higher to satisfy requirement.

For more information regarding the Florida Civic Literacy Requirement, go to <https://www.mdc.edu/main/testing/criteria/civic-literacy-competence.aspx>.

Computer Competency: By the 16th earned college-level unit, students must attempt the computer competency requirement **OR** by the 31st earned college-level unit, students must satisfy the requirement (CGS1060C, CTS 0050, an equivalent college unit course or the Computer Skills Placement examination). For more information, see <http://bitly.com/UQJDHM>.

Foreign Language Competency: May be satisfied by Foreign Language Competency (FLC) standardized examinations. For more information, refer to [Foreign Language Competence](#).

Grade Point Average (GPA) Requirement: Students must complete all coursework with a "C" or better to complete the degree.

Graduation Requirements: Students should check their individualized Degree Audit Report to determine the specific graduation policies in effect for their program of study for the year and term they entered Miami Dade College. This outline includes current graduation requirements.

Additional Information

*Strongly Recommended by School of Education

*Includes any and all courses within associated prefix

**General education courses require grade of "C" or higher to satisfy requirement