

FACULTY AGENDA ITEM

Date: 3/18/2024

Submitted by: Maria Stover, x. 1802

Subject: New STEM Certificate

Description: This is an interdisciplinary certificate intended for students interested in gaining introductory-level knowledge base in STEM (Science, Technology, Engineering, and Mathematics) disciplines.

Rationale: The STEM certificate gives all Washburn students and community members a chance to explore introductory courses in four different science and/or math disciplines. The certificate is expected to have fairly broad appeal as it would provide foundational knowledge useful in many fields. For example, 1. English or mass media majors interested in reporting on scientific discoveries, 2. political science or pre-law majors interested in an environmental topic or biomedical patents, 3. Elementary education majors who want to expand their knowledge of science, 4. integrated studies majors, 5. business majors or future entrepreneur interested in biotechnology companies, 6. philosophy majors contemplating the intersection of ethics and science, 7. community members who want to learn more about science, and many others.

Financial Implications: None indicated.

Proposed Effective Date: Fall 2024

Request for Action: Approval by AAC/FS/ Gen Fac/WUBOR

Approved by: AAC on 3/18/2024

Faculty Senate on date

Attachments: **Yes X** No **_**

New Program Proposal

Date Submitted: 02/14/24 10:53 am

Viewing: : STEM Certificate

Last edit: 03/19/24 9:03 am

Changes proposed by: Maria Stover (maria.stover)

Catalog Pages Using
this Program

[STEM, Certificate](#)

Rationale for

Summarize

In Workflow

- 1. AA Committee
- 2. Faculty Senate
- 3. General Faculty
- 4. WUBOR
- 5. Final Acad Ops
- 6. Registrar

Approval Path

- 1. 03/19/24 9:03 am
Holly Broxterman
(holly.broxterman):
Approved for AA
Committee

General Information

Effective Catalog
Edition

2024-2025

Department

College of Arts and Sciences

College

College of Arts and Sciences

Division

Degree Level

Undergraduate

Program Title

STEM Certificate

Degree to be
Offered

Certificate (CERT)

Is there
related

Is this program
offered completely
online?

No

Does this program
lead to a teaching
certification?

No

Program Code

Is this program an
interdisciplinary
program?

No

Interdisciplinary

CIP Code

410000 - Science Technologies/Technicians,
General.

Modality

New Program Header

Statement of Justification/Rationale for Offering the Program

The STEM certificate gives all Washburn students and community members a chance to explore introductory courses in four different science and/or math disciplines. The certificate is expected to have fairly broad appeal as it would provide foundational knowledge useful in many fields. For example, 1. English or mass media majors interested in reporting on scientific discoveries, 2. political science or pre-law majors interested in an environmental topic or biomedical patents, 3. Elementary education majors who want to expand their knowledge of science, 4. integrated studies majors, 5. business majors or future entrepreneur interested in biotechnology companies, 6. philosophy majors contemplating the intersection of ethics and science, 7. community members who want to learn more about science, and many others.

Program Demand

The certificate is expected to have fairly broad appeal as it would provide foundational

knowledge useful in many fields.

Projected Enrollment for the Initial Three Years of the Program

Implementation

Full- Part-Time
Full-Time Part-Time

Year 2

Full-Time - Part-Time Headcount -
Headcount Per Year Per Year

Full-Time Sem - Part-Time Sem Credit -
Credit Hrs Per Year Hrs Per Year

Year 3

Full-Time - Part-Time Headcount -
Headcount Per Year Per Year

Full-Time Sem - Part-Time Sem Credit -
Credit Hrs Per Year Hrs Per Year

Employment

Employment
Opportunity
Information

Admission and Curriculum

Admission Criteria

Total Number of 12
Semester Credit
Hours for the
Degree

Curriculum

This certificate requires a minimum of 12 credit hours in approved science courses from four different disciplines. Courses designated as General Education may be counted towards this certificate, but only two courses (up to 8 credit hours) taken may count for both general education and this certificate. Students must have a grade of “C” or better in each course. A minimum of six hours used to meet the minor requirements must be earned in residence at Washburn University. Students may request alternate coursework be accepted toward the certificate. Students should make these requests prior to completing coursework. Students may request alternate coursework be accepted toward the minor. Students should make these requests prior to completing coursework.

AN 114	Introduction to Archaeology	3
AN 116	Biological Anthropology	3
AN 118	Introduction to Forensic Science	3
AN 334	Archaeological Myths, Frauds, and Controversies	3
AN 371	Field and Lab Methods in Archaeology	3
AS 101	Introduction to Astronomy/Cosmology	3
AS 102	Introduction to Astronomy - Solar System	3
AS 104	Life in the Universe	3
BI 100 & BI 101	Human Biology and Human Biology Laboratory	5
BI 106	Everyday Biology	5
BI 140	Introduction to Forensic Biology	3
BI 150	Evolution	3
BI 202	Biology of Behavior	3
BI 203	Human Impact on the Environment	3
CH 103	Introduction to Forensic Chemistry	3

CH 111	Chemistry in Everyday Life	5
CH 121	General, Organic, and Biological Chemistry	5
CM 105	Introduction to Computer Science	3
CM 111	Introduction to Structured Programming	4
CM 290	Introduction to Python Programming	3
GL 101	Physical Geology	3
GL 103	Historical Geology	3
MA 112	Contemporary College Mathematics	3
MA 116	College Algebra	3
MA 140	Statistics	3
PS 101	Physics in Everyday Life	5
PS 120	Meteorology	3
PS 126	Physical Science for Elementary Educators (includes lab)	5
PS 131 & PS 132	Biological Physics for the Health and Life Sciences and Biological Physics for the Health and Life Sciences Laboratory	4
Pathway		

Core Faculty

Faculty Workload Analysis

Faculty Workload Analysis (describe how the course offering schedule and anticipated enrollments correlate to faculty lines)

Supplemental Files
 [Interdisciplinary Minor Division Vote.pdf](#)

Reviewer
 Holly Broxterman (holly.broxterman) (02/20/24 11:55 am): To streamline division voting process and to meet governance deadlines (unable to run parallel voting in CourseLeaf), Maria Stover coordinated the process via paper. Attached are the division voting results - all divisions have voted to approve.

Comments
 Holly Broxterman (holly.broxterman) (03/07/24 9:25 am): 3/7/2024 - Approved in CFCCC, CFC and 3/5/24 CAS Meeting via paper process. Approved by Dr. Erby to move to AAC queue for 3/18 AAC meeting.

Holly Broxterman (holly.broxterman) (03/19/24 9:03 am): Approved in 3/18/24 Academic Affairs Committee Meeting.