ACADEMIC SENATE PROPOSAL TRACKING SHEET

(Document To Be Originated by the Academic Senate Secretary On Canary Color Paper)

Proposal # 23-09	Title: Major Revisions to Course - ASTR 3XX (formerly ESCI 307)

(Proposal explanation, submitter and college dean signatures on attached program/degree or course revision form.)

All proposals MUST have their originating college faculty body (Arts, Sciences & Education; Health Sciences; Technical Sciences) **approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.**

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. **NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, PEU approval must be received prior to forwarding the proposal to the Senate.**

2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum. A digital copy of the proposal will be linked on the Academic Senate Proposal page by the Academic Senate Secretary.

3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is returned to the Academic Senate Secretary for forwarding to the next committee. If a committee disapproves the proposal, the committee will provide written rationale to the originator, via the Academic Senate.* The originator may request that the item be forwarded to the next body for consideration. Upon completion of subcommittee action, the proposal will be returned to the Academic Senate Secretary for consideration at the next Academic Senate meeting.

4. The Academic Senate considers the proposal and recommends approval or disapproval. If approved, the proposal is forwarded to the Provost for consideration within 10 working days. If the Academic Senate disapproves the proposal, the Academic Senate will provide written rationale to the originator. * The originator may request that the item be forwarded to the Full Faculty for consideration, utilizing procedures set forth in the Senate Bylaws.

5. Approved proposals will be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor. From this point forward, the Provost's Administrative Assistant will update the Proposal page on the website by contacting the webmaster.

7. The Chancellor approves or disapproves the proposal.

8. If approved, the proposal will then either be implemented or referred to MSU for further action. The tracking page on the Provost site will be updated as required.

Subcommittee and Academic Senate college representatives will notify their respective colleges of the progress of submitted proposals or the proposal may be tracked via the web page -- http://www.msun.edu/admin/provost/senate/proposals.htm

Documentation and forms for the curriculum process are also available on the web page: http://www.msun.edu/admin/provost/forms.htm

*** If a proposal is disapproved, it is returned to the Dean of the submitting college who then notifies the originator.**

See back for tracking form

	Date	Action Taken	Signature	Date	Comments/Reason for Disapproval	Sent to	Date	Transmittal E-mail sent
Received by Senate Secretary	12/1/2023	Tracking form initiated	DocuSigned by: Brittany Garden	12/1/2023	Sent to Curriculum Committee		12/1/2023	DocuSign
General Education Committee (if applicable)		☐ Approved ☐ Disapproved						
Curriculum Committee (if applicable)	1/4/2024	☒ Approved ☐ Disapproved	DocuSigned by: Casey Donovan	1/4/2024	Forward to Academic Senate			
Academic Senate	1/12/2024	☒ Approved ☐ Disapproved	DocuSigned by: Valerie Guyant	1/12/2024				
Provost	01/22/24	☐ Approved ☐ Disapproved		1/22/24				
Chancellor	1/26/2024	☒ Approved ☐ Disapproved	Gregory O Kayfl 1.26.24			Provost	1/29/24	
MSU		☐ Approved ☐ Disapproved						
BOR		☐ Approved ☐ Disapproved						
NWCCU		☐ Approved ☐ Disapproved						
Provost		Advise originating college and Academic Senate of status. Update Web page.						
Registrar		Catalog/Policy Manual Update						

NOTE: The secretary of the Academic Senate will update the Academic Senate Proposal web page from initial receipt until the proposal reaches the Provost. The Provost's Administrative Assistant will ensure that the current status of each proposal is maintained on the Academic Senate Proposal web page from that point forward.

COURSE REVISION FORM

NEW____ DROPPED____ MAJOR REVISION_x__ FOR INFORMATION ONLY____

- For purposes of this form, "For Information Only" should be used for catalog description or objective changes ONLY

College CASE Program Area ASTR

Submitter_____ Dean_____ Date_____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
This is a proposal for updating the ESCI 307 Astronomy course. This course has not been taught in over 10 years, and so I'm proposing these updates to course description, Program Area, and objectives to match the updated Biology Program objectives and better serve the students.

Please provide the following information:

Course Prefix & No.: ASTR 3XX

Current Course Title: Astronomy
Proposed Course Title (when applicable): Astronomy

Current # of Credits: 4
Proposed # of Credits (when applicable): 4

[please specify degrees]:
Required by: Biology Minor
Selective in: Biology Major
Elective in:

General Education Category:

Lecture:
Lecture/Lab: 4
Gradable Lab:

Lecture contact hours per week: 3
Lab contact hours per week: 2

Current Catalog Description (include all prerequisites):
Introduction to astronomical observation and measurement and features of the Solar System and phenomena found outside the Solar System. Includes lecture and laboratory hours. Offered alternate years. Prerequisite: PHYS 231.

Proposed or New Catalog Description (include all prerequisites):
During this course, the student will go on a journey to the planets, stars, and galaxies. This course will provide an overview of astronomy, including the basic physical concepts. The student will learn how astronomical science works, and gain an appreciation of the universe we live in. The student will learn about the importance of both the history and continued scientific study of the cosmos. This course includes both lecture and laboratory hours.

Course Outcomes/Objectives:

- Understand motions of the night sky including seasonal and circumpolar stars, phases of the moon, eclipses and seasons.
- Discuss important properties of the sun, earth, moon, and other planets and their satellites
- Explain how telescopic and spectroscopic observations justify the current scientific understanding of the universe, via the scientific method
- Have an historic perspective of astronomy and know how our views of the universe have evolved over the centuries

Please note additional instructional resources needed, if any (including library materials, special equipment, and facilities). Approval does not indicate support for new faculty or additional resources.

Lab Fee $10.00

Updated 4/4/2023

ASTR 3XX: Astronomy

Instructor Contact Information
Dr. Kyra Kaercher
HGNRSC 208
406-265-4126
Kyra.kaercher@msun.edu

Course Description

During this course, the student will go on a journey to the planets, stars, and galaxies. This course will provide an overview of astronomy, including the basic physical concepts. The student will learn how astronomical science works, and gain an appreciation of the universe we live in. The student will learn about the importance of both the history and continued scientific study of the cosmos. This course includes both lecture and laboratory hours.

Course Objectives

- Understand motions of the night sky including seasonal and circumpolar stars, phases of the moon, eclipses and seasons.
- Discuss important properties of the sun, earth, moon, and other planets and their satellites
- Explain how telescopic and spectroscopic observations justify the current scientific understanding of the universe, via the scientific method
- Have an historic perspective of astronomy and know how our views of the universe have evolved over the centuries

Grading

Exams: 4 Lecture; 1 Lab x100 (35%)
Participation (10%)
Homework/Lab Reports (35%)
Final Essay (25%)

A-100 - 93%
A- 92 - 90%
B+ 89 - 87%
B 86 - 83%
B- 82 - 80%
C+ 79 - 77%
C 76 - 73%
C- 72 - 70%
D+ 69 - 67%
D 66 - 63%
D- 62 - 60%
F 59% and under

Textbook

Eric Chaisson and Steve McMillan. 2017. *Astronomy Today: 9th ed.* Pearson.

Schedule

Week		Chapter
1 Jan 8	Introduction; History of Astronomy; Science Lab: Observing the Sky	Chapter 1; Chapter 2
2 Jan 15	Radiation and Spectroscopy Lab: Spectroscopy	Chapter 3; Chapter 4
3 Jan 22	Telescopes; **Test 1** Lab: Optics and Telescopes	Chapter 5
4 Jan 29	The Solar System; Earth Lab: Luminosity and Brightness	Chapter 6, Chapter 7

5 Feb 5	Moon and Mercury Lab: Planetary Motion	Chapter 8; Chapter 9
6 Feb 12	Venus and Mars Lab: Cratering	Chapter 10; Chapter 11
7 Feb 19	Jupiter and Saturn Lab: Gravity	Chapter 12; Chapter 13
8 Feb 26	Uranus, Neptune; Debris; Formation of Planets Lab: Kepler's Laws	Chapter 14; Chapter 15
9 March 4	**Test 2;** The Sun; The Stars Lab: Sun and Moon	Chapter 16; Chapter 17
10 March 11	**SPRING BREAK**	
11 March 18	Gas and Dust; Star Formation Lab: Northen Hemisphere Constellations	Chapter 18; Chapter 19
12 March 25	Stellar Evolution; Stellar Explosions Lab: Southern Hemisphere Constellations	Chapter 20; Chapter 21
13 Apr 1	Neutron Stars and Black Holes; **Test 3** Lab: Galaxies	Chapter 22
14 Apr 8	The Mily Way; Galaxies Lab: Extra Solar Planets	Chapter 23; Chapter 24;
15 Apr 15	Galaxies and Dark Matter Cosmology. Lab: **Lab Exam**	Chapter 25; Chapter 26;
16 Apr 22	The Early Universe Life in the Universe Lab: Night Sky (At night)	Chapter 27; Chapter 28
Finals	Apr 29-May 2 **Test 4**	