I. CATALOG INFORMATION

A. Discipline: ASTRONOMY

B. Subject Code and Number: AST M122

C. Course Title: Independent Study-Astronomy

D. Credit Course units:

Units: 0.5 – 3

Lecture Hours per week: 0

Lab Hours per week : 1.5 – 9

Variable Units : No

E. Student Learning Hours:

Lecture Hours:

Classroom hours: 0 - 0

Laboratory/Activity Hours:

Laboratory/Activity Hours 26.25 - 157.5

Total Combined Hours in a 17.5 week term: 26.25 - 157.5

F. Non-Credit Course hours per week _____

G. May be taken a total of: [X] 1 [ ] 2 [ ] 3 [ ] 4 time(s) for credit

H. Is the course co-designated (same as) another course: No [X] Yes [ ]
If YES, designate course Subject Code & Number: _____

I. Course Description:

Allows independent study for students who wish to extend their knowledge of a particular area of English through research and study. Utilizes an approved independent project. Includes one-on-one work with instructor.

J. Entrance Skills

*Prerequisite: No [ ] Yes [X] Course(s)
Completion of one course in Astronomy and instructor approval

*Corequisite: No [X] Yes [ ] Course(s)

_____

Limitation on Enrollment: No [X] Yes [ ]

_____

Recommended Preparation: No [X] Yes [ ] Course(s)

_____

Other: No [X] Yes [ ]

_____

K. Other Catalog Information:

Interested students should contact an Astronomy instructor in the discipline for assistance in developing a contract for learning about a specific topic. May be taken for a maximum of six (6) units in discipline. Formerly AST M22A/B. Transfer credit: CSU; UC (determined after admission).

II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		Methods of evaluation will be consistent with, but not limited by, the following types or examples.
1	apply the knowledge acquired to other areas of Astronomy discipline.	Successful completion of a course project, i.e. portfolio, paper, conference, presentation, performance, or lab research. Evaluation methods will be determined by the instructor in consultation with the student.
2	formulate statements designed to assess the applicability of their knowledge to other related topics.	Successful completion of a course project, i.e. portfolio, paper, conference, presentation, performance, or lab research. Evaluation methods will be determined by the instructor in consultation with the student.
3	analyze new information, practices, or research in the Astronomy discipline and utilize those findings in further research or creative projects.	Successful completion of a course project, i.e. portfolio, paper, conference, presentation, performance, or lab research. Evaluation methods will be determined by the instructor in consultation with the student.

III. COURSE CONTENT

Estimated %	**Topic**	**Learning Outcomes**
Lecture (must total 100%)		
Lab (must total 100%)		
100.00%	Project content and specific topics will be determined by the student in consultation with the supervising faculty member.	1, 2, 3

IV. TYPICAL ASSIGNMENTS

A. Writing assignments

Writing assignments are required. Possible assignments may include, but are not limited to:	
1	projects to be determined in conversation between the instructor and the student.
2	development of project-related documents: essays, term projects, library research, and literature reviews.

B. Appropriate outside assignments

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	
1	projects to be determined in conversation between the instructor and the student.

C. Critical thinking assignments

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	projects to be determined in conversation between the instructor and the student.

V. METHODS OF INSTRUCTION

Methods of instruction may include, but are not limited to:

☐ Distance Education – When any portion of class contact hours is replaced by distance education delivery mode (Complete DE Addendum, Section XV)

☐ Lecture/Discussion

☒ Laboratory/Activity

☒ Other (Specify)

The specific methods to be used will be determined by the supervising faculty member in consultation with the student.

☒ Optional Field Trips

☐ Required Field Trips

VI. METHODS OF EVALUATION

Methods of evaluation may include, but are not limited to:

☒ Essay Exam	☐ Classroom Discussion	☒ Skill Demonstration
☐ Problem Solving Exam	☒ Reports/Papers/ Journals	☒ Participation
☒ Objective Exams	☒ Projects	☒ Other (specify)

Specific evaluation methods will be determined by the instructor in consultation with the student.

VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS

Specific books, articles, films, etc. used will be determined by the supervising faculty member in consultation with the student.

VIII. STUDENT MATERIALS FEES

[X] No [ ] Yes

IX. PARALLEL COURSES

College	*Course Number*	*Course Title*	*Units*
Santa Barbara City College	GEOG 299	Independent Study in Geography	1-3
Ventura College	GEOG V90	Directed Studies in Geography	0.5-6.0
Allan Hancock College	GEOG 189	Independent Projects in Geography	1-3

X. MINIMUM QUALIFICATIONS

Courses Requiring a Masters Degree:
Master's degree in physics, astronomy, or astrophysics OR bachelor's degree in physics or astronomy AND master's degree in engineering, mathematics, meteorology, or geophysics OR the equivalent.

XI. ARTICULATION INFORMATION

A. Title V Course Classification:

1. This course is designed to be taken either:

   [ ] Pass/No Pass only (no letter grade possible); or
   [X] Letter grade (P/NP possible at student option)

2. Degree status:
   Either [X] Associate Degree Applicable; or [ ] Non-associate Degree Applicable

B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?
   Yes: [ ] No: [X] If YES, what section(s)?

   [ ] A1 - Natural Sciences - Biological Science
   [ ] A2 - Natural Sciences - Physical Science
   [ ] B1 - Social and Behavioral Sciences - American History/Institutions
   [ ] B2 - Social and Behavioral Sciences - Other Social Behavioral Science
   [ ] C1 - Humanities - Fine or Performing Arts
   [ ] C2 - Humanities - Other Humanities
   [ ] D1 - Language and Rationality - English Composition
   [ ] D2 - Language and Rationality - Communication and Analytical Thinking
   [ ] E1 - Health/Physical Education

☐ E2 - PE or Dance
☐ F - Ethnic/Gender Studies

C. California State University(CSU) Articulation:

1. Do you recommend this course for transfer credit to CSU? Yes: ☒ No: ☐
2. If YES do you recommend this course for inclusion on the CSU General Education list?
   Yes: ☐ No: ☒ If YES, which area(s)?

A1 ☐ A2 ☐ A3 ☐ B1 ☐ B2 ☐ B3 ☐ B4 ☐

C1 ☐ C2 ☐ D1 ☐ D2 ☐ D3 ☐ D4 ☐ D5 ☐

D6 ☐ D7 ☐ D8 ☐ D9 ☐ D10 ☐ E ☐

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes: ☐ No: ☒
2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes: ☐ No: ☒

IGETC Area 1: English Communication

☐ English Composition
☐ Critical Thinking-English Composition
☐ Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

☐ Mathematical Concepts

IGETC Area 3: Arts and Humanities

☐ Arts
☐ Humanities

IGETC Area 4: Social and Behavioral Sciences

☐ Anthropology and Archaeology
☐ Economics
☐ Ethnic Studies
☐ Gender Studies
☐ Geography
☐ History
☐ Interdisciplinary, Social & Behavioral Sciences
☐ Political Science, Government & Legal Institutions
☐ Psychology
☐

☐ Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

☐ Physical Science Lab or Physical Science Lab only (none-sequence)
☐ Physical Science Lecture only (non-sequence)
☐ Biological Science
☐ Physical Science Courses
☐ Physical Science Lab or Biological Science Lab Only (non-sequence)
☐ Biological Science Courses
☐ Biological Science Lab course
☐ First Science course in a Special sequence
☐ Second Science course in a Special Sequence
☐ Laboratory Activity
☐ Physical Sciences

IGETC Area 6: Language other than English

☐ Languages other than English (UC Requirement Only)
☐ U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)
☐ U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

XII. REVIEW OF LIBRARY RESOURCES

A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:
Research using the Library's print and online resources.

B. Are the currently held library resources sufficient to support the course assignment?

YES: ☒ NO: ☐

If NO, please list additional library resources needed to support this course.

XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION

Requisite Justification for Completion of one course in Astronomy and instructor approval

☒ A. Sequential course within a discipline.

☐ B. Standard Prerequisite or Corequisite required by universities.

☐ C. Corequisite is linked to companion lecture course.

☐ D. Prerequisite or Corequisite is authorized by legal statute or regulation.
Code Section: _____

☐ E. Prerequisite or Corequisite is necessary to protect the students' health and safety.

☐ F. Computation or communication skill is needed.

☐ G. Performance courses: Audition, portfolio, tryouts, etc. needed.

XIV. WORKPLACE PREPARATION

AST M122: Not Applicable

XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM

AST M122: Not Applicable

XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM

AST M122: Not Applicable

XVII. STUDENT MATERIALS FEE ADDENDUM

AST M122: Not Applicable

XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041

AST M122: Not Applicable

XIX. CURRICULUM APPROVAL

Course Information:

Discipline: ASTRONOMY

Discipline Code and Number: AST M122

Course Revision Category: Outline Update

Course Proposed By:

Originating Faculty _____

Faculty Peer: _____

Curriculum Rep: _____

Department Chair: _____

Division Dean: _____

Approved By:

Curriculum Chair: _____

Executive Vice President: _____

Articulation Officer: _____

Librarian: _____

Implementation Term and Year: Fall 2011

Approval Dates:

Approved by Moorpark College Curriculum Committee: 02/02/2016

Approved by Board of Trustees (if applicable): 03/08/2011

Approved by State (if applicable): 04/05/2011