Both MIC 302 and MIC 401 must be taken to secure Literacy (L) credit.

This is a step-wise guide to signing up for this class:
1. Pick the general area of microbiology that will be the topic of your paper.
2. Find a faculty member who can help you with that topic and who will read and grade the paper. This person should know something about your topic.
3. Pick up the form for the class from the advising office (LSA 189), fill it out and get your reader to sign it.
4. Turn in the signed form to the advising office to allow enrollment into the class.

Here is a brief guideline of some general areas and possible faculty members. This list is incomplete and is included only as a suggestion.

**MICROBIAL PATHOGENESIS** - Drs. Bean, Haydel, Misra, Nickerson, Shi, Stout  
**BACTERIAL GENETICS/PHYSIOLOGY** - Drs. Bean, Garcia-Pichel, Haydel, Misra, Nickerson, Shi, Stout, Wang  
**VIROLOGY** - Drs. Anderson, Blattman, Jacobs, Hogue  
**IMMUNOLOGY** - Drs. Anderson, Bean, Blattman, Chang, Lake  
**MICROBIAL ECOLOGY** - Drs. Garcia-Pichel, Gile, Neuer, Escalante, Cadillo-Quiroz, Wang  
**MICROBIAL EVOLUTION** - Drs. Bean, Cadillo-Quiroz Garcia-Pichel, Gile  
**BIOMARKERS/DIAGNOSTICS/BIOANALYTICAL CHEMISTRY** - Dr. Bean  
**EUKARYOTIC MICROBES/BIODIVERSITY** - Dr. Gile  
**ENVIRONMENTAL MICROBIOLOGY** - Drs. Cadillo-Quiroz, Krajmalnik-Brown, Neuer  
**SPACE MICROBIOLOGY** - Dr. Nickerson  
**MICROBIAL BIOFUELS** - Dr. Vermaas, Garcia-Pichel, Wang  
**BACTERIAL PHOTOSYNTHESIS** - Drs. Garcia-Pichel, Vermaas  
**ARCHAEA** - Dr. Cadillo-Quiroz  
**MICROBIAL TECHNOLOGY** - Dr. Wang  
**VACCINES** - Drs. Anderson, Blattman, Hogue, Jacobs, Mason, Mor

The requirements for this class are:
1. Write a paper (minimum: 15 pages) that is a research proposal on a microbiology topic of the student’s choice
2. Give an 8-10 minute PowerPoint presentation for the other members of this class

More questions: see Dr. Valerie Stout, LSE 333, 965-4617, vstout@asu.edu

Student Signature Date

Instructor Name – Please Print Department

By signing this, I agree to direct grade this student’s Microbiology Research Paper and submit the semester grade one week after Reading Day to Briana Smethwick at Briana.Smethwick@asu.edu.

Instructor Name - Signature Date

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Below this line for Life Sciences Office Use

Advisor Name Signature Date
The goal of the research paper is to identify a problem (or question) in the very broad field of microbiology, develop a hypothesis (or hypotheses), and propose a series of experiments to determine a solution to that problem (or answer for the question).

Based on your proposed topic, identify faculty members that you will approach and ask them if he/she is willing to serve as your research paper advisor/reader/ grader. The faculty member must sign the Microbiology Research Paper Agreement form before you can register for MIC 401.

Faculty members will likely be more responsive if you are interested in writing on a subject matter that is familiar to them. Stating that you are interested in writing about “microbial pathogenesis”, “bacterial physiology”, “viruses”, or “a subject that you specialize in” is very vague and very broad. You should think more specifically and narrowly about a problem/question related to a specific area of research and describe how you would address that problem/question in a research proposal/paper. In this way, you can gauge the interest of the queried faculty member and establish that you have actually thought about your research paper and how you plan to proceed.

Please review the list of possible readers on the attached form. You can ask any faculty member within or outside of SoLS to serve as your reader. Research faculty members or postdoctoral research fellows in research laboratories or in the labs of other faculty members can also serve as your advisor/reader, so you can ask the faculty member if someone in their lab is available to serve as an advisor/reader.

The research paper should have the following layout:

**Abstract** (1 page)
**Introduction** to field relating to the problem (5-8 pages)
Statement of **problem** and **question** you are addressing and proposed **solution** (1-2 pages)
**Experimental design** - description of methods to address the specific aims (4-6 pages)
Possible **outcomes** and limitations of experiments (1-2 pages)
Possible **difficulties** and **alternative strategies** (1 page)
**Interpretations/conclusions** of your proposed experiment based on possible outcomes (2 pages)