

Change Course Proposal Form

**Submitted on 02/13/2019 by William
Bray (WBray@MissouriState.edu).**

***All fields require input**

This proposal applies to:

- An existing COURSE
- An existing REGULAR (e.g. permanent) SECTION of a variable content course.

Existing Course:

MTH130 Contemporary Mathematics

Will this proposal need to be reviewed by CGEIP? No Yes

Will this proposal need to be reviewed by EPPC? No Yes

Current online catalog description:

MTH 130 Contemporary Mathematics

Prerequisite: "C" grade or better in MTH 101 or MTH 103, or approved score on a departmental placement test; Co-requisite: Students who do not meet the prerequisite yet have a Math ACT 20 or 21 (SAT 480 to 509), or a D grade in MTH 101, or an approved score on the departmental placement exam may enroll in MTH 130 concurrently with MTH 107. General Education Course (Focus on Quantitative Literacy). MOTR number MATH 120 - Mathematical Reasoning and Modeling. This is a problem solving and applications of mathematics course. Topics to be studied will include, but not limited to: the art of problem solving, geometry, probability, statistics, and mathematics of finance. Cannot count toward a mathematics major or minor. Cannot be taken Pass/Not Pass. MTH 130 does not meet the prerequisite for MTH 135. 3(3-0) F,S

Revise the current online catalog description as needed: (Strikethrough all deletions and insert/bold new information. Any content that is copied and pasted will lose existing formatting; please review prior to submission.)

← → **B I S**

MTH 130 Contemporary Mathematics

Prerequisite: "C" grade or better in MTH 101 or MTH 103, or approved score on a departmental placement test; Co-requisite: Students who do not meet the prerequisite yet have a Math ACT **19**, 20 or 21 (SAT ~~480~~ **450** to 509), or a D grade in MTH 101 **or MTH 103**, or an approved score on the departmental placement exam may enroll in MTH 130 concurrently with MTH 107. General Education Course (Focus on Quantitative Literacy). MOTR number MATH 120 - Mathematical Reasoning and Modeling. This is a problem solving and applications of mathematics course. Topics to be studied will include, but not limited to: the art of problem solving, geometry, probability, statistics, and mathematics of finance. Cannot count toward a mathematics major or minor. Cannot be taken Pass/Not Pass. MTH 130 does not meet the prerequisite for MTH 135. 3(3-0) F,S

POWERED BY TINYMCE

What is changing? Check all boxes that apply.

- Course Code
- Course Number (Check Availability)
- Title
- Prerequisite
- Credit Hours/Contact Hours
- Periodicity
- Description

Reason for proposed change

We have had excellent success with the co-requisite model with math ACT 20-21. Decreasing to 19 seems reasonable and likely to carry the same success.

Does this change affect course assessment (e.g. student learning evidence/outcomes)? No Yes

Explain.

[Empty text box for explanation]

1

How did you determine the need for this change? Check all boxes that apply or specify other.

- Routine or annual review/assessment of curriculum
- Faculty Input
- Student Input
- Accreditation/certification compliance
- Review of catalog information
- Other (be specific):
- Check if this is a non-substantive change.

What is the date that this course change was approved by departmental or program faculty?
(MM/DD/YYYY)

12/05/2018

Current Status:

College Council Review

Proposal Progress:

02/13/2019 - Submitted by Department Head (William Bray)

Review Comments:

02/13/2019 - Department Head Review - William Bray - Proposal so that we can broaden the students taking MTH 130 through the co-requisite model.

Copy As New Proposal

MAKE YOUR

MENT.

New Course Proposal Form

Submitted on 02/25/2019 by D Wait (Alexanderwait@missouristate.edu).

***All fields require input**

- New COURSE
- New REGULAR PERMANENT SECTION of an existing variable content course. If a new regular section of an existing variable topics course, enter the existing course number below

Course Code:

BIO

Course Number: (Check Availability)

502

Course Title:

Sustainability Science in Practice

Will this course become part of a program? No Yes (A corresponding program change form must be submitted)

Will this proposal need to be reviewed by CGEIP? No Yes

Will this proposal need to be reviewed by EPPC? No Yes

Prerequisite/Co-requisite or enter 'None':

Recommended Prerequisite GRY 108 or BIO 122

Catalog Course Description: (Include any Pass/Not Pass grading restrictions, repeatable limits, limitation on course applicability, UG/GR parallel course, etc.)

After exploring the three pillars of sustainability (environment, social equity, economics), students will embark on developing a research proposal in their area of study. Research in virtually all areas related to sustainable development can be a focus of a student's research proposal. For example: food, health, education, economics, social and gender equity, energy, law and diplomacy, land use change, biodiversity loss, chemical pollution, freshwater use, water quality, climate change mitigation, environmental remediation, smart structures, alternative energy, supply chain logistics and smart grids.

2

Credit Hours:

Lecture Contact Hours:

Lab Contact Hours:

Note: If variable credit, enter the highest number and add to end of course description. (e.g. "Variable credit, may be taken 1-3 hours.")

Periodicity. Check all that apply.

- | | | |
|--|--|---|
| <input type="checkbox"/> Fall | <input type="checkbox"/> Fall (even-numbered years only) | <input type="checkbox"/> Fall (odd-numbered years only) |
| <input type="checkbox"/> Spring | <input type="checkbox"/> Spring (even-numbered years only) | <input type="checkbox"/> Spring (odd-numbered years only) |
| <input checked="" type="checkbox"/> Summer | <input type="checkbox"/> On Demand only | |

Complete Catalog Description:

BIO 502 Sustainability Science in Practice

Prerequisite: Recommended Prerequisite GRY 108 or BIO 122

After exploring the three pillars of sustainability (environment, social equity, economics), students will embark on developing a research proposal in their area of study. Research in virtually all areas related to sustainable development can be a focus of a student's research proposal. For example: food, health, education, economics, social and gender equity, energy, law and diplomacy, land use change, biodiversity loss, chemical pollution, freshwater use, water quality, climate change mitigation, environmental remediation, smart structures, alternative energy, supply chain logistics and smart grids.

Credit hours: 3 Lecture contact hours: 3 Lab contact hours: 0

Typically offered: Summer

Include sample syllabus (list topics, course goals.) Use text box OR upload only file types of PDF, DOC or DOCX.

Attached

Purpose of Course

1. Understand definitions of sustainability); relationships between Public Affairs at MSU and sustainability; and, models of sustainability.
2. Understand sustainability in higher education and on a university campus.
3. Understand sustainability through the lens of "Systems Thinking.
4. Understand the difference between "sustainability related vs. sustainability focused" research, events, and projects.
5. Understand sustainability research funded by grants that result in dissemination via primary literature.
6. Understand sustainability events and projects that are funded by organizations that result in organizational change, change in behaviors, or changes in the built environment.
7. Understand how to write a good outline of a proposal
8. Understand how to think about and write "broader impact statements"
9. Understand how to write a budget and budget justification
10. Understand the grant proposal review process
11. Reflect on how your understanding of sustainability has changed since the first day of the first Module
12. Articulate a working definition of sustainability
13. Articulate how to approach sustainability in possible future jobs/career paths

Relationship to Other Departments

None per se. Sustainability minor students can be from any Department

Is there a graduate/undergraduate parallel course to this one? No Yes

Enter parallel course number

null null null

How do these classes differ?

New Course Resource Information

Anticipated Average Enrollment per section:

24

Maximum Enrollment Limit per section:

24

Anticipated Average Enrollment per semester:

24

Maximum Enrollment Limit per semester:

24

Anticipated Average Enrollment per year:

24

Maximum Enrollment Limit per year:

24

Faculty Load Assignment (equated hours):

3

Is another course being deleted? No Yes

Select course number and title being deleted.

null null null

What will this course require in the way of:

Additional library Holdings

No

2

Additional computer resources

No

Additional or remodeled facilities

No

Additional equipment or supplies

No

Additional travel funds

No

Additional faculty; general vs specialized

No

Additional faculty; regular vs per-course

No

Other additional expenses

None

If additional faculty are not required, how will faculty be made available to teach this course?

The course will be offered in the summer on-line It may also be offered in the spring if BIO 579 Conservation Biology enrollment suggests that course be offered every other spring.

List names of current faculty qualified and available to teach this course

Alexander Wait

What is the anticipated source of students for this course?

Biology majors/minors. Sustainability minors

If from within the department, will students be taking this course in addition to or in place of other courses?

No

If from outside the department, which courses in other departments would most likely be affected?)

None

2

Other comments:

Maximum enrollment is 24. I expect up to 20 undergraduate students and 4 graduate students. However, what ever the split, I expect the class will more than meet minimum enrollment requirements.

What is the date that this new course was approved by departmental or program faculty?
(MM/DD/YYYY)

02/08/2019

Current Status:

College Council Review

Proposal Progress:

02/25/2019 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.

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MAKE YOUR

MENT™

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BIO 502/602 Sustainability Science in Practice

Course Overview: After exploring the three pillars of sustainability, students will embark on developing a research proposal in their area of study. Research in virtually all areas related to sustainable development can be a focus of a student's research proposal. For example: food, health, education, economics, social and gender equity, energy, law and diplomacy, land use change, biodiversity loss, chemical pollution, freshwater use, water quality, climate change mitigation, environmental remediation, smart structures, alternative energy, supply chain logistics and smart grids.

General Course Policies:

The course consists of four modules. The schedule is found in Blackboard: "Sustainability Science Course Schedule BIO 502_602". Each Module contains pod casts, powerpoints (with audio), readings, graded discussions and assignments.

The total number of points for BIO 502 is 556. The total number of points for BIO 602 is 631. Grades are based on A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%)

Policy on late assignments: all assignments for a Module due by 11:59 am the last day of the module
Due dates are calculated by Central Standard Time

My availability on-line is Monday through Friday 11-3. However, except for weekends, I will probably be grading between 9-4 every weekday. Appointments via email, phone or in person if you are in Springfield are available – just email me.

I prefer NO emailed assignments. I will provide assignment boxes on Blackboard

File types I accept for attached documents (Microsoft Word, PDF);

The proper sequence for accomplishing weekly activities and assignments should be evident – in general reading homework is any time and discussion forums should follow a logical sequence as posted.

Participation & Collegiality

Attendance:

Participation/Attendance:

Because of the nature of an online course, participation will be measured by your active involvement in the activities on Blackboard (weekly discussions and completions of assignments, etc.). Simply logging into the course site does not count as participation.

Behavioral Policy Example 1

netiquette:

Please adhere to proper netiquette when communicating with your peers. Be respectful of each other's opinions and try to be professional at all times. You may find the Core Rules of Netiquette helpful for information on proper conduct when interacting with others online. As the instructor, I reserve the right to remove any discussion I deem to be disrespectful or offensive and any student displaying disrespectful conduct in the discussion area will be subject to the university's student conduct policy.

Behavioral Policy Example 2

Civility Policy:

Faculty at MSU are committed to developing and actively protecting a class environment in which respect must be shown to everyone in order to facilitate and encourage the expression, testing, understanding, and creation of a variety of ideas and opinions. Rude, sarcastic, obscene, or disrespectful posts have a negative impact on everyone's learning and will not be tolerated. Any person engaging in disrespectful or disruptive behavior will be subject to the university's misconduct policy outlined in the Code of Student Rights and Responsibilities.

Communication

What students can expect from instructor

Email: alexanderwait@missouristate.edu

Emails sent during the week (Monday – Friday), I will respond to within 24 hours of receiving them. Emails received over the weekend will be receive a response within 48 hours ^{SEP}

Phone: (417) 836-5802 [note that I use my office phone very periodically and do not check messages regularly]. If you need my cell number, please email me why and I will give it to you. I am available for your needs during the course and will work with you.

I can be reached at the provided number Monday - Friday from 11:00 a.m. - 3:00 p.m. (However, I may work from home or from my lab, so email is best. However, I will make myself available so you can earn the grade you work for).

*If for some reason, I will be away and cannot respond in this time frame I will communicate this with you through the course announcements beforehand.

Communication Plan for Students

Please feel free to email me directly with questions of a personal nature, grading questions, advising help or with any other issues that are not appropriate for the rest of the class to read. Please use ONLY your MSU email when sending email correspondence to me in this course.

For class related questions, there is an open forum on the Discussion Board available for each Module (not graded). I will check the Discussion Board on a daily basis and will answer questions as needed. I also highly encourage students to read and respond to postings from their classmates. Part of the nature of this class is for students to help each other troubleshoot problems and develop critical-thinking skills and working through questions on the forum is an excellent method to develop proficiency in these areas.

Discussion of Schedule

Online classes start on the official semester starting day just like their seated counterparts. However, I am defining Module dates instead of "weeks" and when things will be due. Be clear on due dates and expectations or email me. I will include a full copy of the course schedule as part of their syllabus.

Technology

To be successful in an online course, you must have reliable computer and Internet access. It is each student's responsibility to have access to a dependable computer and Internet connectivity. It is strongly recommended that, in addition to your standard means of access, you have an alternative plan for acquiring course materials, should your computer fail to function or your Internet connectivity becomes disrupted. The MSU campus library is an excellent option if it is nearby; otherwise, most public libraries offer Internet access. If you have a laptop computer, then familiarity with local "hotspots" might also serve you well. It is your responsibility to actively and proactively address technical problems therefore, develop a plan to address technical problems before they arise.

2

If you need assistance with Blackboard the MSU helpdesk can be reached by phone at 417-836-5891 or by emailing HelpDesk@MissouriState.edu. You can also visit the [Help Desk website](#) for a live chat option.

MODULE COURSE SCHEDULE BIO 502/602

MODULE 1

A. LEARNING GOALS

1. Know your professor (Pod Cast 1 and Curriculum Vitae).
2. Understand definitions of sustainability (Readings 1, 2, and 5); relationships between Public Affairs at MSU and sustainability; and, models of sustainability (PowerPoint 1, Readings 1-5)
3. Understand sustainability in higher education and on a university campus (Reading 3)
4. Understand sustainability through the lens of "Systems Thinking" (Reading 4)
5. Understand the difference between "sustainability related vs. sustainability focused" research, events, projects (PowerPoint 2).
6. Understand sustainability research funded by grants that result in dissemination via primary literature (Reading 6, 7 and 8).
7. Understand sustainability events and projects that are funded by organizations that result in organizational change, change in behaviors, or changes in the built environment (PowerPoint 3). (Reading 9, 10 and 11)
8. Determine the area of research, type of project, type of event, or sustainable development you want to write a grant proposal to fund.

B. READINGS

1. Reading 1: "On not defining sustainability"
2. Reading 2: "Reclaiming the definition of sustainability"
3. Reading 3: "Higher education: the quest for the sustainable campus"
4. Reading 4: "Systems Thinking"
5. Reading 5: "Models Sustainable Innovation"

C. DISCUSSIONS

1. Discussion 1: Introduce yourself to your peers. What are your general interests in sustainability? (5 points)

2. Discussion 2: How do different definitions of sustainability inform your:
 - i. Understanding of sustainability
 - ii. Current thoughts about sustainability focused research, events, or projects that you may propose in your grant proposal (10 points)
3. Discussion 3: Comments on "Questions" from PowerPoint 1 (12 points)
4. Discussion 4: Does "system thinking" help you understand the difference between sustainability related and sustainability focused research? (5 points)
5. Do you want to propose a sustainability focused research, project, or event. Or, do you really want to only concentrate on either environmental, social or economic sustainability? If so, to what extent do you need to recognize all three in your proposal? (5 points)
6. I am posting a word document and link to AASHE. The discussion threads should help you think about sustainability and about potential research, projects or events. Share your thoughts on AASHE as a resource and the discussion threads. (5 points)

D. POWERPOINTS AND POD CASTS

1. Pod cast 1: Introduction by Professor Wait
2. Powerpoint 1: "What is sustainability/sustainable development"
3. Powerpoint 2: "Examples of sustainability research"
4. Powerpoint 3: "What is the difference between sustainability related and sustainability focused"

E. ASSIGNMENTS

1. Questions for reading 1 (30 points)
2. Questions for reading 2 (49 points)
3. Questions for reading 3 (37 points)
4. Questions for reading 4 (35 points)
5. Questions for reading 5 (33 points)
6. What is your proposal idea? (5 points)
7. What are five "literature sources" for your proposal idea? (5 points)
8. What program or organization will you write a grant to fund your proposal? (5 points)

F. OUTCOMES

1. Understand models and definitions of sustainability
2. Have a proposal idea and outline with appropriate sources
3. Know how to find funding sources and understand a RFP (Request for Proposals)
4. Understand the nuts and bolts of a good proposal

MODULE 2

A. LEARNING GOALS

1. Putting together a good outline of a proposal
2. How to think about and write "broader impact statements"
3. How to write a budget and budget justification

B. READINGS

1. Sample proposal 1
2. Sample proposal 2
3. Sample proposal 3

C. DISCUSSIONS

1. How do I know if I have a good idea for a proposal? (5 points)
2. When do I write my proposal summary and/or cover letter? (5 points)

D. POWERPOINTS AND POD CASTS

1. Examples of research dissemination, outcomes or products (PowerPoint 5)

E. ASSIGNMENTS

1. Preliminary Literature Cited (10 points)
2. Grant Outline (30 points)
3. Preliminary Budget (15 points)
4. Letter of inquiry to funding agency (10 points)

F. OUTCOMES

1. You are ready to put your proposal together

MODULE 3

A. LEARNING GOALS

1. Understand the proposal review process

B. READINGS

1. Undergraduate students will do one friendly review of a student's draft proposal
2. Graduate students formally review three student draft proposals
3. Professor Wait informally reviews all proposals

C. DISCUSSIONS

1. Why is my proposal important? (10 points)

D. POWERPOINTS AND POD CASTS

1. None

E. ASSIGNMENTS

1. Submit rough draft of proposal (20 points)
2. Undergraduates submit friendly review of one proposal (10 points)
3. Graduate students submit blind reviews of three proposals (45 points)

F. OUTCOMES

1. Know how to critique a proposal and provide critical but positive feedback

MODULE 4

A. LEARNING GOALS

1. Reflect on how your understanding of sustainability has changed since the first day of the first Module
2. Articulate your working definition of sustainability as you continue your studies
3. Articulate how you might approach sustainability in possible future jobs/career paths

B. READINGS

1. Reading 6: "Decision-Making for a Sustainable Environment: A Systematic Approach"

C. DISCUSSIONS

1. Reflections on sustainability (10 points)
2. Reflections on grant writing (10 points)

D. POWERPOINTS AND POD CASTS

None

E. ASSIGNMENTS

1. Final Proposal (150 points undergraduate students/200 points graduate students)
2. Reflective Essay (20 points)

F. OUTCOMES

1. Understanding the importance of reflection and system thinking in sustainability

Module 1: 241 points

Discussions: 42 points

Assignments: 199 points

Module 2: 75 points

Discussions: 10 points

Assignments: 65 points

Module 3: 40 undergraduate students/75 graduate students

Discussions: 10 points

Assignments: 30 points undergraduate students/65 points graduate students

Module 4: 200 undergraduate students/240 graduate students

Discussions: 20 points

Assignments: 180 points undergraduate students/220 points graduate students

Total points undergraduate students: 556

Total points graduate students: 631

Grades calculated by points earned/total possible (e.g., for an A you need at least 500 points if you are an undergraduate student and 566 if you are a graduate student)

Grading Rubric for BIO 502/602 Grant Proposal (150 points for BIO 502/ 200 points for BIO 602)

This is a general guide. It is similar to the ones I provided on Effective Strategies for Funding document. <http://orsp.umich.edu/sites/default/files/resource-download/proposal-writers-guide-final.pdf>

<http://orsp.umich.edu/proposal-writers-guide-research-proposals-research-proposals>

The form of your proposal is partially dictated by the program requirements for proposals. But, I will be looking for the following:

1) One page of information for reviewers. Includes URL(s) for granting agency, with a link to the Request for Proposals (or similar guidelines). Also copy and paste information that a reviewer would need to know. 10 points

2) Cover Letter. One page maximum. Clearly indicates the program you are applying for and introduces your proposal idea; and introduces you. It should not be completely redundant with abstract/summary or narrative. The program reviewer should be excited about your proposal after reading your cover letter; however, you should not oversell your idea. You are not going to save the world. 15 points

3) Title. Accurate word for word description of proposal idea. 10 points

4) Summary/Abstract. Provides an accurate summary of what is being proposed, why it is important, feasibility and broader impacts. The rational and significance of proposed work needs to be well structured and logical. Unless specified – 150-400 words. 25 points.

5) Narrative sections: 40 points

a) Introduction and literature review. Provides a clear and through introduction and background. At least 2 pages double spaced. (15 points)

b) Purpose and Objectives. A specific purpose and set of objectives (5 points)

c) Methods (plan or approach). A clear explanation of how the proposed research/event/project will be set up. Relevant examples are cited (10 points)

d) A feasibility statement and timeline. Everything is available and the timeline is stated and appropriate. (10 points)

6) Budget and narrative budget justification. Amount requested is clearly required for success. 15 points

7) References. You absolutely need to include correct citations within your narrative. However, if the nature of the proposal does not require references (unlikely, but possible), then you still need to provide me sources. A minimum of 10 sources is required and citation style has to be acceptable. 10 points

8) 25 points for BIO 502 and 75 points for BIO 602 for the following: Use of acceptable style and grammar. Between the title, abstract, narrative and budget there is a strong, clear, convincing argument why the proposed idea (research/event/project) should be funded. Relevant examples are included to justify the proposal.

Tips on Getting Grants

1) Understand the **peer review** process that will be used to decide if your idea receives funding: Many federal granting agencies will provide a grantee technical comments from 2-4 reviewers and a "score". The score is often "Excellent", "Very Good", "Good", "Fair", "Poor". Usually only proposals that receive all "Excellent" are funded.

2) An "excellent" proposal stands on three main supports:

a) A complete and up-to-date survey of the state of the research in the field of your proposal. You do not have time to really do this well, but you need to try and demonstrate that you have tried within the obvious time constraints of this course.

b) A realistic and well-delimited presentation of a well-chosen idea and of yourself and your institution as the proper place for it to be carried out. You can make up your "institution" – but make sure I understand. E.g., a small not for profit, a hospital, a university, a farmer, a small business.

c) A clear parallel between the impact of the work you propose and the aims of the grants program to which you are applying.

3) Align the impact of your idea with the aims of the grant program. It is crucial to select a program and funding source whose missions will be advanced by what you are proposing.

a) The key to winning grants is that the objectives of your research fit the objectives of the "agency". Read all the documents provided by the agency; e.g.,

- the agencies mission, programs of interest,
- eligibility criteria (you will pretend you are eligible!),
- whether the agency supports purchase of equipment or pays salaries for you or people you would need to hire,
- maximum award amounts,
- requirements for cost sharing (again you will make it up that your "institution" has cost sharing if needed), -
- maximum award amounts,
- specified budgetary constraints.

4) You will not do this – but it needs to be mentioned. In the real world of grants you would contact the proper person at the agency (e.g., a program officer). You do not need to pretend you did this – but you can use me as a contact person – and actually I have assignments that will be a check on the fit between proposal idea and agency (e.g., project idea, granting source, preliminary citations, outline).

5) Anticipate reviewer's questions. You need to understand the review process for the grant. E.g., a program officer and three experts in the field (they are generally anonymous).

6) Clearly articulate the intellectual impacts of your research/project etc.

7) The **title** of your proposal, word for word, carries a lot of weight. You should write it last! Or at least revise it last. As you write you may find that your original title does not fit what you end up proposing.

a) An example of too short "organic farming in cities"; too cute "good food for you and me"; just about right "Establishing a model organic farm for cities with populations between 50 and 200K residents in southwestern states"

8) Your **abstract/summary and letter** to agency should be written second to last. Every word counts! Do not minimize the importance of the abstract – if the reader is lost after reading the abstract – they will probably already decide they will not recommend it for funding.

9) If the agency provides titles and abstracts of **previously funded grants**, read them!

10) **Introductions**: the abstract of your proposal plays one kind of introductory role. It is like a map of a new idea. But it should NOT be identical to your narrative introduction. In the introduction, you need to provide a different kind of introduction, one that will lead the reader into the new territory.

11) **References/Citations**: Be sure the literature you cite is a good mirror of your proposal narrative. Only include references that you have read and understood.

12) Agencies prefer to fund ideas that not only address a pressing important issue, but also lead to new questions and possible avenues for the future. Your idea needs to advance the field (by that I do not mean sustainability generically, but specifically – e.g., food insecurity in US college students).

13) **Reviewers** are looking for significance, approach, innovation, and that the investigator can carry out the project or is aligned with institutions or partners or experts that will make it successful if funded.

2

14) **Methods:** Every method or technique or analysis of data or assessing impact has to be clear and applicable. Do not forget safety, management of hazards, and proper guidelines for human or other animal guidelines (e.g., https://ora.missouristate.edu/research_compliance.htm). There are very strict rules, e.g., for how survey questions are written and how confidentiality is ensured.

15) **Budgets:** No one will give you money without knowing how you are going to spend it. Budgets generally require budget justifications for each item or expense. Do not ask for too little money – that is a sign you are not qualified. Do not ask for the maximum amount that could be awarded. You should provide good-faith estimates. You are not expected to know to the penny how much a project is going to cost.

a) If you have to hire consultants or per hour workers etc., you need to justify it. Sometimes salaries are not allowed, and that is where cost sharing or time sharing is expected. However, you still have to mention that you can have the time and salaries to carry out the idea.

b) If indirect costs are required – you need to add them. E.g., some institutions require 45% indirect costs on everything but equipment. So, if you need 100K, you have to ask for 145K

16) Divide your narrative into sections that announce the subject of each section (each word should matter). Begin a paragraph at every logical spot.

17) Reviewers are looking for quick, clean insights into exactly what it is you are proposing, why it is important and how you are going to get it done.

These are for scientific research, but are still helpful:

<http://orsp.umich.edu/sites/default/files/resource-download/proposal-writers-guide-final.pdf>

<http://orsp.umich.edu/proposal-writers-guide-research-proposals-research-proposals>

18) Finally – I will provide a generic rubric for grading your proposal. And there will be parts of proposal requirements that you will not need to provide. E.g., biosketches.

Below are potential sources for funding. There are not in any particular order except "location". RFP's RFA's – essentially announcements for grants

University Grant Programs

<https://www.pcc.edu/sustainability/initiatives/eco-social-justice-grant/>

<https://www.uky.edu/sustainability/sustainability-challenge-grants>;

<https://www.uky.edu/sustainability/sites/www.uky.edu.sustainability/files/SCG2018ApplicationInstructions.pdf> (note that it took a little digging to find the RFP – which I will not do for most links I post – if you need direction on finding an RFP or you want me to design an RFP for a program, I will be happy to do that.)

<http://www.tfise.uky.edu/>

<https://www.missouristate.edu/Sustainability/193478.htm>

<https://oee.osu.edu/coca-cola-student-sustainability-grants-now-open!.html>

<https://sustainability.ncsu.edu/blog/2014/02/03/nc-state-sustainability-fund-offers-30000-in-grants/>

Springfield-Regional Grant Programs (or funding was for a project in the region)

<https://dnr.mo.gov/env/swmp/swmd/disto.htm>

<https://www.epa.gov/newsreleases/epa-announces-300000-brownfields-grants-springfield-mo-help-return-properties>

<http://cfozarks.org/cfo-grantmaking-programs/metropolitan-springfield-community-grantmaking/>

State Programs

<https://dnr.mo.gov/env/swmp/financial/finasst.htm>

<https://www.moenvironment.org/> <https://moenvironment.org/news/436-settlement-between-missouri-coalition-for-the-environment-and-worlds-of-fun-will-benefit-shoal-creek-watershed-and-the-missouri-river>

<https://www.rco.wa.gov/grants/sustainability.shtml>

<https://www.prnewswire.com/news-releases/13-small-farms-in-11-states-receive-sustainability-grants-300632549.html>

<http://www.southeastsdn.org/grants/>

Federal Programs

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<https://www.epa.gov/research-grants/sustainability-research-grants>

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505549

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505483&org=CBET

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504707

<https://nifa.usda.gov/program/sustainable-agriculture-program>

<https://www.grc.nasa.gov/vine/?s=sustainability+grants>

<https://www.sare.org/Grants/Apply-for-a-Grant>

<https://www.arts.gov/program-solicitation-documentary-sustainability-project>

<https://www.arts.gov/artistic-fields/media-arts/documentary-sustainability-initiatives>

<https://grants.nih.gov/grants/guide/pa-files/PA-18-355.html>

<https://www.nal.usda.gov/afsic/grants-and-loans-farmers>

https://www.fs.usda.gov/wps/portal/fsinternet!/ut/p/z1/|VFBDolwEHyLB46wDSYGvaEXNaIntfZiAEtpA10sRaKvt4nGalLK3nYyMzuZBQYUmllovUsRGooLux_Y6OiTx4QB2cznu7UfPQEC-07CbvUisD568mXCnvofBPbbfvnvgG3A19EsEsCq2OSuVBkCrXQK1CAWtWt4mit5bngNNGvUSSphU7FO3_d eeiQTBSaPJ4QqGQY2guYZ11x7jbZwbkxVTxzikLZtPYEoCu6lWDqkS5JibYB-MqEq1t6W03HC5cl13ZwB2Jp5fo!/dz/d5/L2dJQSEvUUt3QS80TmxFL1o2XzlwMDAwMDAwQTgwT0hIVk5NVTEwMDAwMDAw/?ss=119979&navtype=SEARCH&cid=FSE_003585&navid=1211300000000000&pnavid=1210000000000000&ttype=search&pname=Partnership%20Resource%20Center%20%20-%20Search

https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction=searchControlled.main?RequestTimeout=180&records_per_page=ALL&abstyperesearch=on&abstypegrants=on&identifier=on&institute=on&annual=on&pubcount=on&principal=on&grantamt=on&proposedstart=on&addRptOption=on&hiliteOption=on&refreshPage=True&txtSearch=&RESCAT=1175&RFA_AO=1

International Programs

<https://www.greengrants.org/>

<https://my.rotary.org/en/take-action/apply-grants/global-grants>

Foundation grant programs

<https://www.rbf.org/programs/sustainable-development>

<http://sustainablesocieties.org/funding-for-research/>

Sustainability Programs at various levels that provide ideas for sustainability grants (although the organization or program may not itself fund grants)

<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<http://www.refocussustainability.com/>

<http://www.flowercitypickers.com/>

<https://www.facebook.com/RITFoodShare/>

<http://www.swipehunger.org/>

<http://www.middlebury.edu/sustainability/our-commitment/sustainable-dining/sustainable-to-go-containers>

<https://cloudinstitute.org/> **Our mission is to ensure the viability of sustainable communities by leveraging changes in K-12 school systems to prepare young people for the shift toward a sustainable future.**

<https://www.ifla.org/libraries-development>

Other miscellaneous program/event urls

<https://compostconference.com/submit-abstracts/>

Evaluations from piloting the course summer 2018

Missouri State University

Response Rate: 13/17 (76.47 %)

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1 - About My Instructor and My Experience in this Class

My instructor was responsive when I contacted her/him.

Do Not Agree at All (1) (1) 0 0.00%

2 (2) 0 0.00%

3 (3) 0 0.00%

4 (4) 2 15.38%

Completely Agree (5) (5) 11 84.62%

4.85 4.59 4.43

0 25 50 100 Question Departmental University

Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median

13/17 (76.47%) 4.85 0.38 5.00 99 4.59 0.80 5.00 3866 4.43 0.98 5.00

1 - About My Instructor and My Experience in this Class

My instructor provided opportunities for me to interact with other students in this course.

Do Not Agree at All (1) (1) 0 0.00%

2 (2) 0 0.00%

3 (3) 1 7.69%

4 (4) 1 7.69%

Completely Agree (5) (5) 11 84.62%

4.77 4.65 4.33

0 25 50 100 Question Departmental University

Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median

13/17 (76.47%) 4.77 0.60 5.00 99 4.65 0.69 5.00 3860 4.33 1.12 5.00

1 - About My Instructor and My Experience in this Class

My instructor helped me understand the value and usefulness of the subject matter covered by the course.

Do Not Agree at All (1) (1) 0 0.00%

2 (2) 0 0.00%

3 (3) 0 0.00%

4 (4) 1 7.69%

Completely Agree (5) (5) 12 92.31%

4.92 4.41 4.31

0 25 50 100 Question Departmental University

Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median

13/17 (76.47%) 4.92 0.28 5.00 100 4.41 1.00 5.00 3868 4.31 1.04 5.00

1 - About My Instructor and My Experience in this Class

The assignments were relevant and helpful to my learning.

Do Not Agree at All (1) (1) 0 0.00%

2 (2) 0 0.00%

3 (3) 1 7.69%

4 (4) 2 15.38%

Completely Agree (5) (5) 10 76.92%

4.69 4.26 4.36

0 25 50 100 Question Departmental University

Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median

13/17 (76.47%) 4.69 0.63 5.00 100 4.26 1.16 5.00 3869 4.36 1.00 5.00

Instructor: D Wait *

Course: 35843-35895-SU18: BIO 597/697 Sustainability Sci in Prac~~ce~~-SU18

SU18 Online (Session 1 and 4)

Missouri State University

Response Rate: 13/17 (76.47 %)

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1 - About My Instructor and My Experience in this Class

The way my instructor organized materials online worked well for me.

Do Not Agree at All (1) (1) 1 7.69%

2 (2) 0 0.00%

3 (3) 0 0.00%

4 (4) 3 23.08%

Completely Agree (5) (5) 9 69.23%

4.46 4.22 4.31

0 25 50 100 Question Departmental University

Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median

13/17 (76.47%) 4.46 1.13 5.00 100 4.22 1.17 5.00 3866 4.31 1.09 5.00

1 - About My Instructor and My Experience in this Class

My instructor used a variety of methods to present course content.

Do Not Agree at All (1) (1) 0 0.00%

2 (2) 0 0.00%

3 (3) 1 7.69%

4 (4) 3 23.08%

Completely Agree (5) (5) 9 69.23%
 4.62 4.38 4.21
 0 25 50 100 Question Departmental University
 Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median
 13/17 (76.47%) 4.62 0.65 5.00 99 4.38 0.96 5.00 3866 4.21 1.11 5.00
1 - About My Instructor and My Experience in this Class
The instructional methods used in this course facilitated my learning.

Do Not Agree at All (1) (1) 0 0.00%
 2 (2) 1 7.69%
 3 (3) 0 0.00%
 4 (4) 3 23.08%
 Completely Agree (5) (5) 9 69.23%
 4.64 4.17 4.25
 0 25 50 100 Question Departmental University
 Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median
 13/17 (76.47%) 4.54 0.88 5.00 100 4.17 1.25 5.00 3853 4.25 1.10 5.00
1 - About My Instructor and My Experience in this Class
My instructor used a variety of methods to assess learning.

Do Not Agree at All (1) (1) 0 0.00%
 2 (2) 0 0.00%
 3 (3) 0 0.00%
 4 (4) 3 23.08%
 Completely Agree (5) (5) 10 76.92%
 4.77 4.32 4.21
 0 25 50 100 Question Departmental University
 Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median
 13/17 (76.47%) 4.77 0.44 5.00 100 4.32 1.08 5.00 3839 4.21 1.11 5.00
Instructor: D Wait *

Course: 35843-35895-SU18: BIO 597/697 Sustainability Sci in Pracice-SU18
SU18 Online (Session 1 and 4)
Missouri State University

Response Rate: 13/17 (76.47 %)
 Page 3 of 5
1 - About My Instructor and My Experience in this Class
My instructor provided meaningful and specific feedback in this course.

Do Not Agree at All (1) (1) 0 0.00%
 2 (2) 0 0.00%
 3 (3) 0 0.00%
 4 (4) 2 15.38%
 Completely Agree (5) (5) 11 84.62%
 4.85 4.38 4.17
 0 25 50 100 Question Departmental University
 Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median
 13/17 (76.47%) 4.85 0.38 5.00 100 4.38 1.03 5.00 3835 4.17 1.19 5.00
1 - About My Instructor and My Experience in this Class
Overall, I felt engaged with the content, instructor, and other students in this course.

Do Not Agree at All (1) (1) 0 0.00%
 2 (2) 0 0.00%
 3 (3) 0 0.00%
 4 (4) 3 23.08%
 Completely Agree (5) (5) 10 76.92%
 4.77 4.26 4.20
 0 25 50 100 Question Departmental University
 Response Rate Mean STD Median Departmental Mean STD Median University Mean STD Median
 13/17 (76.47%) 4.77 0.44 5.00 100 4.26 1.14 5.00 3827 4.20 1.14 5.00
2 - Which features in this course were the most helpful?
Response Rate 10/17 (58.82%)

- The availability of material, there were never any "waiting" periods where documents we not uploaded or available. Also, the discussion boards were fairly active and had thoughtful responses
- which was a huge help and not seen in other online classes that I have taken.
- he was so quick to respond to emails and was very helpful
- The most helpful part of the course was having the assignments spread out in different modules.
- I appreciated that everything was given out at the beginning of each module so I never had to wait to complete a section, it was all there when I had time to work
- I really liked being able to see Dr. Wait's replies to the homework that I submitted. I thought the PowerPoints were the most helpful learning material.
- Extensive feedback from discussions and assignments. Also, everything was graded fast.
- Tips and rubric
- Learning so many details of sustainability.
- Having every module, assignment, discussion, and course outlined specifically and easy to access.
- Dr. Wait took the time to help me when I was behind on the course. He is the most helpful feature.

3 - What, if anything, could your instructor have done to better facilitate your learning in this course?
Response Rate 7/17 (41.18%)

- I think this course was very well organized, I have really enjoyed it, I don't think any changes need to be made.
- There were alot of initial assignments that would have been more beneficial if there wasnt so many assignments before the grant proposal was due only because that was alot of assignments to do in such a short time
- I think it could have been organized better, navigating blackboard is difficult already and it was a bit confusing how everything was separated, but I understand professors always have difficulty getting blackboard organized well and it will never be perfect
- I think that there were too many places to have to look for the assignments, discussions, readings, PowerPoints. Sometimes I felt like I had to hunt for what I was looking for. I think a different

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organization materials into different folders would be more helpful.

- None
- Nothing; everything went very smoothly.
- have a more concise schedule.

Instructor: D Wait *

Course: 35843-35895-SU18: BIO 597/697 Sustainability Sci in Prac~~ice~~ce-SU18

SU18 Online (Session 1 and 4)

Missouri State University

Response Rate: 13/17 (76.47 %)

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Overall Means 4.74 4.41 4.32

Instructor: D Wait *

Course: 35843-35895-SU18: BIO 597/697 Sustainability Sci in Prac~~ice~~ce-SU18

SU18 Online (Session 1 and 4)

Missouri State University

Response Rate: 13/17 (76.47 %)

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