About *CourseSource*

CourseSource was developed in response to a recommendation in the 2011 report *Vision and Change in Undergraduate Biology Education*. *CourseSource* publishes original, peer-reviewed biology teaching and learning resources that:

- Incorporate student-centered, evidence-based pedagogy
- Focus on professional society-developed learning goals and objectives
- Are organized and formatted so that transfer and use in other classrooms is easily done

Because *CourseSource* articles describe implementations of evidence-based teaching strategies, they do not require substantial specific evidence concerning the efficacy of the materials themselves.

Why Publish in *CourseSource*?

CourseSource will provide authors with the opportunity to publish teaching materials in a high-quality format that documents their scholarly teaching efforts, accomplishments and innovations. Authors will retain copyright to their materials, through a [Creative Commons Attribution NonCommercial 4.0 International License](), and will pay no page charges.

Publication Criteria and Types of Articles Published in *CourseSource*

CourseSource publishes original works centered on scholarly teaching. Authors are required to give full details on previous or duplicate publication of content of the resource, as previously publication does not automatically preclude publication in the journal. Please email the Editor-in-Chief a copy or URL of any document that might be considered a previous publication, or provide this document during the submission process as a Supplementary file.

CourseSource publishes the following types of articles:

- **Lessons:** peer-reviewed articles that describe innovative classroom activities or laboratory exercises for teaching undergraduate biology. Lessons describe pedagogical approaches to address one or more learning objective in a way that actively engages students. Published Lessons must be "field-tested," i.e. have been taught one or more times by the authors and contain detailed instructions and supporting materials that allow implementation by other undergraduate biology educators.
- **Science Behind the Lesson:** peer-reviewed articles that summarize scientific topics related to a submitted Lesson or an emerging area of biology that educators should know more about. Science Behind the Lesson articles should expand upon and explain a particular topic so that a teacher can rapidly learn or review background information, beyond a textbook level, that is needed to understand and teach the related Lesson or develop new Lessons in that area.
- **Reviews:** peer-reviewed articles that examine, evaluate, critique, and/or appraise topics, tools or materials that are of broad interest to the biology education community. Reviews can focus on: MOOCs, TedTalks, iTunesU lectures, etc.**;** Books**;** Articles**;** Applications; Tools**;** Events such as workshops or meetings**;** Websites**;** or any other materials/tools of interest to undergraduate

biology educators. Published Reviews must be about topics that have been "field-tested," i.e. have been used in the classroom one or more times by the authors, except if the Review topic is an event. It is acceptable to review commercial products.

- **Essays:** editor-reviewed perspectives concerning topics or challenges that are of broad interest to the biology education community. The subject matter should be presented within a scholarly and/or personal context, citing references and resources that address the topic.
- **Teaching Tools and Strategies**: editor-reviewed resources and strategies that are of broad interest to the biology education community. The subject matter could include topics such as how to use a survey to facilitate group formation; use of a particular application to facilitate student interaction; a syllabus example from a Learning Goal and Objective oriented course; etc.
- **Announcements:** editor-reviewed, noncommercial notices or news of interest to *CourseSource* readers. Examples include meetings, workshops, conferences, funding opportunities, and fellowships that are "open access" to all qualified applicants.

Editorial Policies

Informed Consent: The use of human subjects or other animals for research purposes is regulated by the federal government and individual institutions. Manuscripts containing information related to human or animal research will not be considered unless they clearly state that the research has complied with all relevant federal and institutional policies.

Funding and Competing Interests: Conflict of interest exists when an author, reviewer or editor has financial, personal or professional relationships that could inappropriately bias or compromise his or her actions. Presence of absence of perceived conflicts must be addressed with a Conflict of Interest Notification statement on the manuscript's title page. Sources of outside support for the creation of the resource must be named in the contributed manuscript.

Authorship: All authors should have contributed directly to, been involved in drafting and revising, and approve the final article.

Style Guidelines: *CourseSource* follows the style guidelines of the *Council of Science Editors (CSE) Style Manual*. Reference list formatting follows the guidelines of the American Society for Microbiology (ASM) citation style.

Copyright: The authors must affirm that they either own the copyright to or have received written permission to use the text, figures, tables, artwork, abstract, summaries and supplementary materials. *CourseSource* applies the Creative Commons Attribution-ShareAlike 4.0 International License to all publications. Under this license, authors retain ownership of the copyright to their article, but allow anyone to download, reuse, reprint, modify, distribute and/or copy the article, as long as the original authors and source are cited. No permission is required from the authors or the publishers for these uses of the published materials.

Peer Review Procedure: All Lesson, Science Behind the Lesson and Review manuscripts, and related educational materials, are subject to peer review. Authors will submit their manuscripts through the online system at http://coursesource.msubmit.net/. Upon submission, the manuscript goes through an initial quality check by the managing editor or Editor-in-Chief to ensure that the article fits within the scope of

CourseSource and has all required elements. After passing the initial check, the article is then assigned to the appropriate Course editor (e.g. Genetics, Microbiology, etc.), who then assigns two reviewers to read and review the manuscript. Next, reviewer comments are sent to the Course editor for collation and review. The editor will then make a recommendation to the Editor-in-Chief whether to accept or reject the article. Based on the extensiveness of the suggested revisions, the article will be accepted with minor revisions, sent back through peer-review after major revisions or rejected. The corresponding author can usually expect an initial response within four weeks.

Editorial Review Procedure: All Essay and Teaching Tools and Strategies manuscripts are subject to editorial review. Authors submit their manuscripts through the online system at http://coursesource.msubmit.net/. Upon submission, the manuscript goes through an initial quality check by the managing editor or Editor-in-Chief to ensure that the article fits within the scope of *CourseSource* and has all required elements. After passing the initial check, the article is then assigned to the appropriate Course editor. The Course editor will assess the submission and determine whether it will be accepted, with or without revisions, or rejected. The corresponding author can usually expect an initial response within two weeks.

Announcements will also be editorially reviewed. However, they are submitted by sending a word file (.doc, .docx, .rtx) to the managing editor at coursesourceeditor@gmail.com.

Online Submission Procedure

All *CourseSource* submissions will be made through the online submission and peer-review site http://coursesource.msubmit.net/.

1. **Create a user account:** To register a brand new account, click the "New Users: Please Register Here" link on the home page. You will be asked to enter your Last Name, Email address, and Telephone Number so that the system may first determine if an account already exists for you. If the system determines you already have an account, your login name and a new, temporary password will be automatically emailed to you. If you need further assistance, please contact *CourseSource* Staff directly.

   If the system does not find an existing account in the database, you will be directed to the registration screen where you can enter in your personal information and choose a login name and password. You may log in immediately after creating your new account. You will also receive an email with your selected login information.

2. **Preparing to submit:** Collect the following information before submission to aid in the process:
   a. Author Information:
      i. First and Last names (All Authors)
      ii. Institutions (All Authors)
      iii. Job Titles (All Authors)
      iv. Postal Address (Corresponding Author)
      v. Work Telephone Numbers (Corresponding Author)
      vi. Email Addresses (All Authors)
   b. Manuscript Title
   c. Manuscript Abstract

d. <u>Manuscript Files:</u>
      i. Main text, figures, images and supplementary materials (all in acceptable formats).

3. **Submission process:** There are four steps to the submission process: Files, Manuscript Information, Validate and Submit.
   a. <u>Files</u>**:** This step guides authors through the file upload, description and order process. A PDF will be generated of all applicable uploaded files for the manuscript.
   b. <u>Manuscript Information:</u> This step will solicit the below listed information from the authors:
      i. Title and Abstract
      ii. Author Information
      iii. Metadata: a strong advantage of *CourseSource* is the ability to search for and filter articles by a plethora of criteria. The majority of criteria are assigned to each article at this point in the submission process.
      iv. Detailed Information
      v. Author Reviewer Suggestions
   c. <u>Validate:</u> This step will go over and ask for approval for all the files and information gathered for the submission.
   d. <u>Submit:</u> This is the final step of the submission process where the manuscript is first reviewed for any missing information and then officially submitted to *CourseSource*.

General Guidelines

These guidelines apply to all *CourseSource* article formats. Guidelines for specific article types are found below.

1. **Main Text:** The main text of articles should be provided as a Microsoft Word (.doc or docx) or RTF (.rtf) file.

2. **Document Format:** The text of the article should be double-spaced, in 11-point Times New Roman font or equivalent, and employ italics rather than underlining (except in the case of URL addresses). Please number all pages and lines in the document. **Figures and tables should not be included in the text document, but rather provided as separate documents.**

3. **Links to Online Materials:** All URL addresses in the text should be activated and ready to click.

4. **Figures (Including Primary Image):** Figure files should be uploaded individually and provided as TIFF or EPS images at a minimum resolution of 300 dpi. PowerPoint files will not be accepted.

5. **Tables:** Table files should be uploaded individually and provided as a word document.

6. **Primary Image:** Authors are encouraged to submit a primary image that will be associated with the submitted article when it is displayed on the *CourseSource* website. The primary image must follow the guidelines for figures mentioned above.

For a tutorial on converting PowerPoint files using Adobe Illustrator, please visit http://art.cadmus.com/da/howto/creating_ai_eps_excell.jsp.

Another useful tutorial on creating EPS and TIFF files can be found at http://art.cadmus.com/da/index.jsp.

To check the quality of digital art files for successful publication, please use the Rapid Inspector tool at http://rapidinspector.cadmus.com/RapidInspector?zmw/index.jsp.

Prepare figures and tables at the size they are to be published:
- Up to 1 column wide: width 4.23 – 8.47 cm
- 1 to 1.5 columns wide: width 10.16 – 11.43 cm
- 2 columns wide: width 14.39 – 17.57 cm
- Physical length must be less than or equal to 23.5 cm

7. **Rich Media:** Rich media files such as videos, audio clips, animations, slideshows and interactive diagrams should be submitted as AVI, WMV, MOV, MP4 or H264 files. If a desired file type is not included here, please email coursesourceeditor@gmail.com

8. **Supplementary Materials:** Supplementary materials can be submitted in any format mentioned above and titled "Supplemental File S1, S2, S3," etc.

Article Specific Guidelines

Below, you will find specific guidelines for each article type published by *CourseSource*.

Lesson Manuscripts Guidelines: *CourseSource* Lessons represent peer-reviewed, innovative classroom activities or laboratory exercises for teaching undergraduate biology that:
- Address one or more Learning Goals outlined by the participating Professional Societies.
- Represent scientific teaching approaches (i.e. applying principles of how people learn, inclusive teaching strategies, active learning and assessment).
- Are field tested (i.e. have been used in a classroom situation).

The Lesson should provide sufficiently detailed instructions and supporting materials so that knowledgeable readers could implement or adapt the Lesson for their classrooms. The Lesson Manuscript should also suggest modifications and extensions to allow easy implementation by a broad range of faculty in undergraduate biology education.

1. <u>Acceptance criteria for Lesson Manuscripts:</u> Reviewers will use a rubric to guide their assessment of a manuscript. Authors are highly encouraged to review the rubric prior to submission.
2. <u>Length of Lesson Manuscript:</u> Generally, up to 4,000 words, excluding references and supplementary materials. The length is provided as a guide; where appropriate, longer submissions will be published.
3. <u>Template for Lesson Manuscript Preparation:</u> Download the Lesson Template that includes format guidelines and a detailed description of the information needed in a Lesson Manuscript.

Science Behind the Lesson Manuscripts Guidelines: Science Behind the Lesson (SBL) Manuscripts are peer-reviewed summaries of scientific topics that are related to a submitted Lesson or an emerging area in biology that educators need to know in more detail. SBL articles expand upon and explain a particular scientific topic in more depth, so that instructors can rapidly learn or review information needed to understand and implement the related Lesson.

1. <u>Length of SBL Manuscripts:</u> Generally, up to 4,000 words, excluding references and supplementary materials. The length is provided as a guide; where appropriate, longer submissions will be published.
2. <u>Template for SBL Manuscript Preparation:</u> Download the SBL Template that includes format guidelines and a detailed description of the information needed in an SBL Manuscript.

Review Manuscripts Guidelines: Review manuscripts are peer-reviewed analyses/evaluation/critiques/recommendations regarding topics, tools or materials that are of broad interest to the biology education community. Reviews may focus on:
- MOOCs, TedTalks, iTunesU Lectures, etc.
- Books
- Articles
- Applications (Aps) and other computer- or web-based tools
- Events such as workshops or meetings
- Websites
- Other materials/tools of interest

1. <u>Length of Review Manuscripts:</u> Generally, up to 3,000 words, excluding references and supplementary materials. The length is provided as a guide; where appropriate, longer submissions will be published.
2. <u>Template for Review Manuscript Preparation:</u> Download the Review Template that includes format guidelines and a detailed description of the information needed in a Review Manuscript.

Essay Manuscripts Guidelines: Essays are editor-reviewed essays of topics or challenges that are of broad interested to the biology education community. The subject matter should be presented within a scholarly context, citing references and resources that address the topic.

1. Length of Essay Manuscripts: Generally, up to 2,000 words, excluding references and supplementary materials. The length is provided as a guide; where appropriate, longer submissions will be published.
2. Template for Essay Manuscript Preparation: Download the Essay Template that includes format guidelines and a detailed description of the information needed in an Essay Manuscript.

Teaching Tools and Strategies Manuscripts Guidelines: Teaching Tools and Strategies text or video articles are editor-reviewed manuscripts that range from how to use a tool or strategy to improve student learning or examples of the use of such tools or strategies in action. Teaching Tools and Strategies articles can range from a video showing how to form groups in a classroom, to a description of an active learning strategy adapted to a 500-student lecture hall.

1. Length of Teaching Tools and Strategies Manuscripts: Generally, up to 2,000 words, excluding references and supplementary materials. The length is provided as a guide; where appropriate, longer submissions will be published. Video submissions can be up to 12 minutes in length, with submissions of less than 5 minutes preferred.
2. Template for Teaching Tools and Strategies Manuscript Preparation: Download the Teaching Tools and Strategies Template that includes format guidelines and a detailed description of the information needed in a Teaching Tools and Strategies Manuscript.

Announcement Guidelines: Announcements are editor-reviewed, noncommercial announcements of meetings, workshops and conferences, funding opportunities, fellowships and other opportunities that are of interest to the undergraduate biology education community.

1. Length of Announcements: Generally, around 300 words, excluding references and supplementary materials. The length is provided as a guide; where appropriate, longer submissions will be published.
2. Link to More Information: When appropriate, include a link to more information pertaining to the subject of the announcement.