

# ENGR - 1070 - Robotics in the World (PS)

2022-2023 Course Proposal - NEW

## Read Before You Begin

**FILL IN** all fields required marked with an \*.

**ATTACH** supporting documentation and complete the **Acknowledgement** section.

**LAUNCH** proposal by clicking Validate and Launch at the top. Once the proposal has been launched, approve the proposal to move the proposal forward in the workflow.

This course proposal form is to create a **NEW** a course, if you need to **REVISE**, **SUSPEND**, or **DISCONTINUE** a course please use the course proposal form designed for that purpose.

*WHEN proposing a new course prefix or course number, please contact the Curriculum Coordinator to discuss availability of prefix and/or number.*

## Course Curriculum Outline

**Rationale\*** Robotics technology is a key application of the physical sciences and influences every aspect of work and home life, ranging from personal, smart devices to healthcare. In order to be successful in the world around them and to provide a vehicle for understanding of the physical world, students can take this course to learn the basics of scientific laws through robotics and how to interact, program, and utilize robots around them in the current world. There is currently no general education course taught on robotics.

**Division\*** Natural Sciences & Engineering

**Prefix\*** ENGR

**Number\*** 1070

**Course Title\*** Robotics in the World (PS)

**Long Course Title**

**Course Description\*** Robotics technology influences every aspect of work and home life. This technology, a cornerstone application of physical laws, has evolving usage in many fields that will be discussed in this class such as: healthcare, agriculture, aerospace, business, and everyday society. This course also introduces students to the basic concepts of programming robotics.

**Prerequisite(s):\*** None

**Recommended Prerequisite(s):\*** None

**Corequisite(s):\*** None

**Recommended Corequisite(s):\*** None

**Other Registration Restrictions\*** None

**Semesters Taught:\***  Fall  
 Spring  
 Summer

**SLCC Equivalent Course(s):\*** None

**Can this Course be Repeated for Additional Credit?\***  Yes  
 No

**If Yes, What's the Repeat Limit?**

**Is there an Equivalent (or Potentially Equivalent) Course at other USHE Institution(s)?\***  Yes  
 No

**If Yes, Explain:**

## General Education Designation

**Is this Course Designed for General Education?\***  Yes  
 No

**If yes, Indicate General Education Designation:**

<input type="radio"/> Composition (EN)	<input type="radio"/> Quantitative Literacy (QL)	<input type="radio"/> American Institutions (AI)
<input type="radio"/> Lifelong Wellness (LW)	<input type="radio"/> Communication (CM)	<input type="radio"/> International Global (IG)
<input type="radio"/> Fine Arts (FA)	<input type="radio"/> Fine Arts Diversity (FA,DV)	<input type="radio"/> Humanities (HU)
<input type="radio"/> Humanities (HU,DV)	<input type="radio"/> Life Sciences (LS)	<input type="radio"/> Life Sciences Diversity (LS,DV)
<input checked="" type="radio"/> Physical Sciences (PS)	<input type="radio"/> Physical Sciences Diversity (PS.DV)	

- Physical Sciences (PS)
- Social Sciences (SS)
- Human Relations (HR)
- Physical Sciences Diversity (PS,DV)
- Social Sciences Diversity (SS,DV)
- Quantitative Studies (QS)

**Course Hours**

Does this Course use  Credit Hours     Clock Hours  
**Credit Hours or Clock Hours?\***

Fill out the appropriate section according to your response above:

**Credit Hour Course**

**Credit Hours:** 3

**Contact Lecture:** 3

**Contact Lab/Other:**

**Total Contact Hours:** 3

**Clock Hour Course**

**Clock Hours:**

**Billable Hours:**

**Total Contact Hours:**

**Course Learning Outcomes**

**SLCC College-Wide & General Education Student Learning Outcomes.**

*Complete the applicable fields below with the course-level student learning outcomes and indicate how they align to the SLCC College-Wide outcome in the text area.*

*Course-level learning outcomes may fit in several College-wide outcomes; select the best area(s) based upon the primary purpose of the course learning outcome. If the course does not include one or more of the College-wide outcomes, please leave text area blank.*

See [SLCC Assessment webpage](#) for additional details about College-Wide Student Learning Outcomes.

**Acquire Substantive Knowledge**

1. Apply physical science principles to describe behaviors and characteristics of robotics.
2. Investigate current applications of robotics in engineering, chemistry, physics and biology.
3. Recognize tools and processes used in the field of robotics while visiting a robotics facility.
4. Differentiate between realistic outcomes achievable with robotics and the speculative outcomes described in science fiction.
5. Evaluate the potential and dangers of robotics.
6. Demonstrate proficiency in the use of databases to obtain published scientific information for inclusion in research papers and class presentations.
7. Use the scientific method while participating in a final group project programming their own robot.

**Communicate Effectively**

1. Apply physical science principles to describe behaviors and characteristics of robotics.
2. Investigate current applications of robotics in engineering, chemistry, physics and biology.
3. Recognize tools and processes used in the field of robotics while visiting a robotics facility.
4. Differentiate between realistic outcomes achievable with robotics and the speculative outcomes described in science fiction.
5. Evaluate the potential and dangers of robotics.
6. Demonstrate proficiency in the use of databases to obtain published scientific information for inclusion in research papers and class presentations.
7. Use the scientific method while participating in a final group project programming their own robot.

**Develop Quantitative Literacies**

1. Investigate current applications of robotics in engineering, chemistry, physics and biology.
2. Recognize tools and processes used in the field of robotics while visiting a robotics facility.
3. Differentiate between realistic outcomes achievable with robotics and the speculative outcomes described in science fiction.
4. Use the scientific method while participating in a final group project programming their own robot.

**Think Critically & Creatively**

1. Differentiate between realistic outcomes achievable with robotics and the speculative outcomes described in science fiction.
2. Evaluate the potential and dangers of robotics.
3. Demonstrate proficiency in the use of databases to obtain published scientific information for inclusion in research papers and class presentations.
4. Use the scientific method while participating in a final group project programming their own robot.

**Develop Civic Literacy & Become a Community Engaged Learner**

1. Recognize tools and processes used in the field of robotics while visiting a robotics facility.
2. Evaluate the potential and dangers of robotics.

**Work in a Professional & Constructive Manner**

1. Demonstrate proficiency in the use of databases to obtain published scientific information for inclusion in research papers and class presentations.
2. Use the scientific method while participating in a final group project programming their own robot.

**Develop Computer & Information Literacy**

1. Demonstrate proficiency in the use of databases to obtain published scientific information for inclusion in research papers and class presentations.
2. Use the scientific method while participating in a final group project programming their own robot.

**Develop Lifelong Wellness**

1. Differentiate between realistic outcomes achievable with robotics and the speculative outcomes described in science fiction.
2. Evaluate the potential and dangers of robotics.
3. Demonstrate proficiency in the use of databases to obtain published scientific information for inclusion in research papers and class presentations.

**Acknowledgements and Attachments**

Please attach any required files by navigating to the right side menu and clicking “Files”. Record when this has been completed in the checkbox, below.

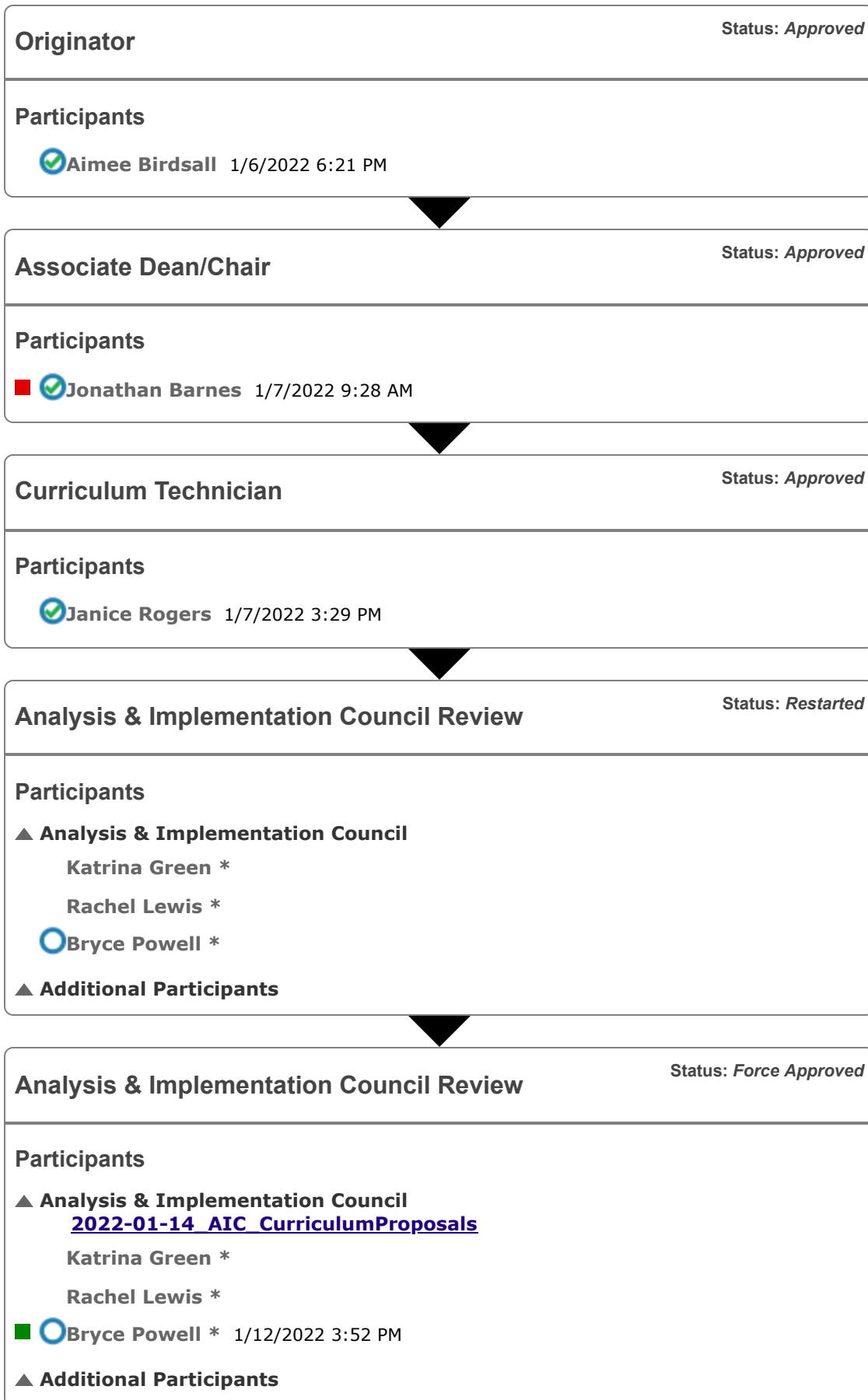
**REMINDER:** Revisions made to the *Course Learning Outcomes* will require an updated syllabus be completed and attached to this proposal.

**Acalog Owner**

- Attached\***  I acknowledge that all areas of this proposal are complete as required for the purpose of this proposal.
- A representative syllabus is attached.
- The General Education Rationale is attached if required.

**Acalog Course OID:**

## Steps for ENGR - 1070 - Robotics in the World (PS)





▼

**Originator Response** Status: *Approved*

---

**Participants**

  **Aimee Birdsall** 1/20/2022 12:56 PM



▼

**School Curriculum Committee** Status: *Approved*

---

**Participants**

▲ **School Curriculum Committee**

  **Janice Rogers \*** 1/28/2022 4:10 PM

▼

**General Education Committee** Status: *Force Approved*

---

**Participants**

▲ **General Education Committee**

 **Ashley Givens \***

Jenny Huynh \*

Rachel Lewis \*

 **Bryce Powell \***

 **Michael Young \***

▲ **Additional Participants**

▼

**Senate Curriculum Committee** Status: *Force Approved*

---

**Participants**

▲ **Senate Curriculum Committee**

[2022-02-14 SenateCurr Proposals](#)

Jenny Huynh \*

Rachel Lewis \*

Rebecca Lowell \*

  **Bryce Powell \***

▲ **Additional Participants**

▼

**Faculty Senate** Status: *Force Approved*

---



## Participants

### ▲ Faculty Senate

[2022-03-21 FacSenate CurriculumProposals](#)

Jenny Huynh \*

Rachel Lewis \*

Bryce Powell \*

### ▲ Additional Participants



## Provost

Status: *Force Approved*

## Participants

Rachel Lewis

Jason Pickavance

Clifton Sanders

Rachel Lewis (System Administrator)

3/22/2022 1:39 PM



## Published to Catalog

Status: *Force Approved*

## Participants

Rachel Lewis

Courtney Wood 5/6/2022 2:58 PM

Katrina Green (System Administrator)

5/31/2022 10:07 AM

## **Attachments for ENGR - 1070 - Robotics in the World (PS)**

**GE\_CCO\_RationaleENGR1070.docx** (uploaded by Aimee Birdsall, 1/6/2022 6:19 pm)  
**CCO\_ENGR\_1070\_SyllabusRevised.pdf** (uploaded by Bryce Powell, 2/10/2022 8:47 am)