

## Term Information

Effective Term Autumn 2020  
[Previous Value](#) Autumn 2013

## Course Change Information

### What change is being proposed? (If more than one, what changes are being proposed?)

Course number, title, description, course goals, credit hours.

### What is the rationale for the proposed change(s)?

The expansion of the course from 1.5 credit hours to 3 allows for deeper exploration of modern technologies utilized in theatre and entertainment events. The change to course number and title better reflect the content of the course and its place in our curriculum.

### What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

Updates are reflected in our recent proposal to revise the MFA curriculum, submitted for approval December 2019.

Is approval of the request contingent upon the approval of other course or curricular program request? Yes

Please identify the pending request and explain its relationship to the proposed changes(s) for this course (e.g. cross listed courses, new or revised program)

The revision to the Master of Fine Arts program, which incorporates the revised course into program requirements, was also submitted for approval in December 2019.

Is this a request to withdraw the course? No

## General Information

Course Bulletin Listing/Subject Area Theatre  
Fiscal Unit/Academic Org Theatre - D0280  
College/Academic Group Arts and Sciences  
Level/Career Graduate, Undergraduate  
Course Number/Catalog 5401  
[Previous Value](#) 5231  
Course Title Engineering for Entertainment  
[Previous Value](#) Topics in Technical Theatre  
Transcript Abbreviation Engr Entertainment  
[Previous Value](#) Theatre Technology  
Course Description An introduction to the technology and engineering behind theatre and entertainment events; focus on motion technology including rigging, tracking and automated systems.  
[Previous Value](#) Exploration of theatre technology topics including: technical direction, theatrical rigging, stage automation systems, and metals as a scenic element.  
Semester Credit Hours/Units Fixed: 3  
[Previous Value](#) Fixed: 1.5

## Offering Information

Length Of Course 14 Week, 12 Week  
[Previous Value](#) 8 Week, 7 Week, 6 Week  
Flexibly Scheduled Course Never

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Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	Yes
Allow Multiple Enrollments in Term	Yes
Max Credit Hours/Units Allowed	9
Max Completions Allowed	6
Course Components	Laboratory
Grade Roster Component	Laboratory
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

## Prerequisites and Exclusions

Prerequisites/Corequisites	
Exclusions	
Electronically Enforced	No

## Cross-Listings

Cross-Listings

## Subject/CIP Code

Subject/CIP Code	50.0501
Subsidy Level	Doctoral Course
<a href="#">Previous Value</a>	<a href="#">Masters Course</a>
Intended Rank	Senior, Masters, Doctoral
<a href="#">Previous Value</a>	<a href="#">Senior, Masters</a>

## Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors  
The course is an elective (for this or other units) or is a service course for other units

[Previous Value](#)

*The course is an elective (for this or other units) or is a service course for other units*

## Course Details

Course goals or learning objectives/outcomes	<ul style="list-style-type: none"><li>• Learn how to make things move onstage.</li><li>• Develop an understanding of the fundamentals behind theatrical rigging systems, fluid power, pneumatics, tracked wagons, motorized winch design, stage lifts, turntables and motion control systems.</li></ul>
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[Previous Value](#)

**COURSE CHANGE REQUEST**  
5401 - Status: PENDING

Last Updated: Vankeerbergen, Bernadette  
Chantal  
01/08/2020

**Content Topic List**

- Technical direction
- Rigging
- Automation
- Fluid Power
- Hydraulics
- Pneumatics
- Tracking
- Winches
- Lifts
- Motion Control Systems
- Theatre Technology

*Previous Value*

- *Technical direction*
- *Rigging*
- *Automation*
- *Welding*

**Sought Concurrence**

Yes

*Previous Value*

**No**

**Attachments**

- THEATRE5401ConcEngineering.pdf: Theatre 5401 Concurrence Request  
*(Concurrence. Owner: Kelly, Logan Paige)*
- Theatre 5401 Syllabus.docx: Theatre 5410 Syllabus  
*(Syllabus. Owner: Kelly, Logan Paige)*

**Comments**

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Kelly, Logan Paige	12/03/2019 04:09 PM	Submitted for Approval
Approved	Kelly, Logan Paige	12/03/2019 04:20 PM	Unit Approval
Approved	Heysel, Garrett Robert	01/08/2020 10:04 AM	College Approval
Pending Approval	Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Oldroyd, Shelby Quinn Vankeerbergen, Bernadette Chantal	01/08/2020 10:04 AM	ASCCAO Approval



# Theatre 5401: Engineering for Entertainment

## SYLLABUS

<b>TERM:</b>	Spring XXXX	<b>INSTRUCTOR:</b>	Chris Zinkon / Chad Mahan
<b>CREDITS:</b>	3	<b>OFFICE:</b>	Drake 083
<b>LEVEL:</b>	U/G	<b>OFFICE EMAIL:</b>	Zinkon.3 / Mahan.33
<b>CLASS TIME:</b>	Tues & Thurs, 11:10am – 12:30pm	<b>OFFICE PHONE:</b>	(614) 247-8960
<b>LOCATION:</b>	Drake 2038	<b>OFFICE HOURS:</b>	By Appointment

**LEARNING OBJECTIVES:** Learn how to make things move onstage. Develop an understanding of the fundamentals behind theatrical rigging systems, fluid power, tracked wagons, motorized winch design, stage lifts, turntables and motion control systems.

**TEACHING METHOD:** Lecture, demonstration, class discussion, project work.

**REQUIRED TEXTS:** None

**RECOMMENDED TEXTS:**

- Scenic Automation Handbook*, Gareth Conner, Focal Press, 2018.
- Stage Rigging Handbook* – 3<sup>rd</sup> Edition, Jay O. Glerum, Southern Illinois University Press, 2007
- Mechanical Design for the Stage*, Alan Hendrickson, Focal Press, 2008.
- Backstage Handbook*, 3<sup>rd</sup> Ed., Paul Carter, Broadway Press, 1994.

**ASSIGNMENTS:** All assignments will have specific due dates, as noted in the weekly syllabus. Late work is generally not accepted, unless you obtain advance permission of the instructor or justified by a doctor’s note.

**GRADING:** Projects will be judged on completeness, clarity of presentation, accuracy, appearance & creativity.

OSU Standard Grading Scheme: 93 - 100 (A), 90 - 92.9 (A-), 87 – 89.9 (B+), 83 – 86.9 (B), 80 – 82.9 (B-), 77 – 79.9 (C+), 73 – 76.9 (C), 70 – 72.9 (C-), 67 – 69.9 (D+), 60 – 66.9 (D), Below 60 (E).

Attendance/Participation .....	10%
EOJ Tracking Scaffold Project.....	15%
Tracked Wagon Assignment .....	5%
EOJ Floating Screen Project .....	15%
Horsepower & Torque Assignment.....	5%
EOJ Fluid Power Project .....	15%
Fluid Power Assignment .....	5%
Rigging Project .....	15%
<u>Motion Control Project</u> .....	<u>15%</u>
<b>Total</b>	<b>100%</b>

**ATTENDANCE:** You are expected to be present, punctual and an active participant in every class session. Attendance and punctuality are mandatory. Repeated absences and/or tardiness will affect your final grade. One warning will be given prior to this rule going into effect.

**ACADEMIC MISCONDUCT:** It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12th Avenue.

#### **COURSE SCHEDULE**

University calendar: <http://registrar.osu.edu/staff/bigcalsem.asp>

Week 1:

1/9 – T Course Overview, Syllabus Discussion, EOJ Automation Challenges, Knots  
1/11 - R Winch Design

Week 2:

1/16 - T Life on the Road – Touring Technicians – Guest Lecture  
1-18 - R Tracked Scenery

Week 3:

1/23 - T EOJ – Scaffold Wagon Winch Modification  
1/25 - R EOJ – Scaffold Wagon Install **EOJ Tracking Scaffold Project**

Week 4:

1/30 - T EOJ – Floating Screen & Track Install **Tracked Wagon Assignment Due**  
2/1 - R EOJ – Floating Screen & Track Install **EOJ Floating Screen Project**

Week 5:

2/6 - T Hoists & Truss  
2/8 - R Machine Shop Tools & Power Transmission Hardware

Week 6:

2/13 - T Horsepower & Torque  
2/15 - R Fluid Power **HP & Torque Assignment Due**

Week 7:

2/20 - T Fluid Power Lab  
2/22 - R EOJ – Witness Stand Install **EOJ Witness Stand Project**

Week 8:

2/27 - T Hemp Rigging **Fluid Power Assignment Due**  
3/1 – R EOJ – Curtain Tab Install

Week 9:

3/6 - T

EOJ – Motor Axis Tuning – Spikemark Programming

3/8 - R

EOJ – Project catchup day

SPRING BREAK \* March 12 – 16 \* No Classes – USITT Fort Lauderdale

Week 10:

3/20 - T

Counterweight Rigging Systems

3/22 - R

Motorized Rigging Systems

Week 11:

3/27 - T

Wire Rope & Rigging Hardware

3/29 - R

Rig a Flat

Week 12:

4/3 - T

Mechanical Advantage, Block & Tackle

4/5 - R

Fun with Ropes

Week 13:

4/10 - T

Stage Lifts

**Rigging Project Due**

4/12 - R

Stage Revolves

Week 14:

4/17 - T

Motion Control Systems

4/19 - R

Motion Control Lab

Finals Week:

4/30 - M

Final Exam

10:00am – 11:45am

**Motion Control Project Due**

**Subject:** Re: Concurrence for the Department of Theatre

**From:** "Lilly, Blaine" <lilly.2@osu.edu>

**Date:** 4/23/2019, 10:09 AM

**To:** "Steinmetz, Brad" <steinmetz.25@osu.edu>

**CC:** "Corlew, Anna H." <corlew.3@osu.edu>, "Subramaniam, Vishwanath" <subramaniam.1@osu.edu>, "Tomasko, David" <tomasko.1@osu.edu>, "Quinzon-Bonello, Rosario" <quinzon-bonello.1@osu.edu>

Professor Steinmetz,

Thanks for reaching out to us. Since you intend to use "engineering" in the title of your course, I'm forwarding your request along to our curricular Associate Dean, David Tomasko, for his input. He can speak for the entire college, which we cannot do.

Thanks,

Blaine Lilly

Associate Chair, UG Programs

Mechanical and Aerospace Engineering

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**From:** Anna Corlew <corlew.3@osu.edu>

**Date:** Tuesday, April 23, 2019 at 10:06 AM

**To:** "Lilly, Blaine" <lilly.2@osu.edu>

**Subject:** FW: Concurrence for the Department of Theatre

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**From:** Steinmetz, Brad <steinmetz.25@osu.edu>

**Sent:** Monday, April 22, 2019 3:42 PM

**To:** Subramaniam, Vishwanath <subramaniam.1@osu.edu>

**Cc:** Breckenridge, Nick <breckenridge.17@osu.edu>; Corlew, Anna H. <corlew.3@osu.edu>

**Subject:** Concurrence for the Department of Theatre

Professor Subramaniam,

The Department of Theatre currently trains our students in the technology and engineering involved in stagecraft and theatre design. We are adapting one of our topics courses (THEA 5231 - Topics in Theatre Technology) into a stand-alone course entitled Engineering for Entertainment. This course focuses on motion technology including theatrical rigging systems, fluid power, pneumatics, tracked wagons, motorized winch design, stage lifts, turntables and motion control systems, with a focus on their use in live events, theatre and themed entertainment. Because the engineering involved may be similar to courses provided in your department, we are asking for your concurrence.

Attached, please find a copy of the syllabus and a concurrence form. Please let me know if you have any questions or concerns. We will look for a response from your department by May 6<sup>th</sup>.

All the best,

-Brad Steinmetz

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**Brad Steinmetz, MFA**

Associate Professor | Director of Undergraduate Studies

**The Ohio State University**

College of Arts and Sciences Department of Theatre

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