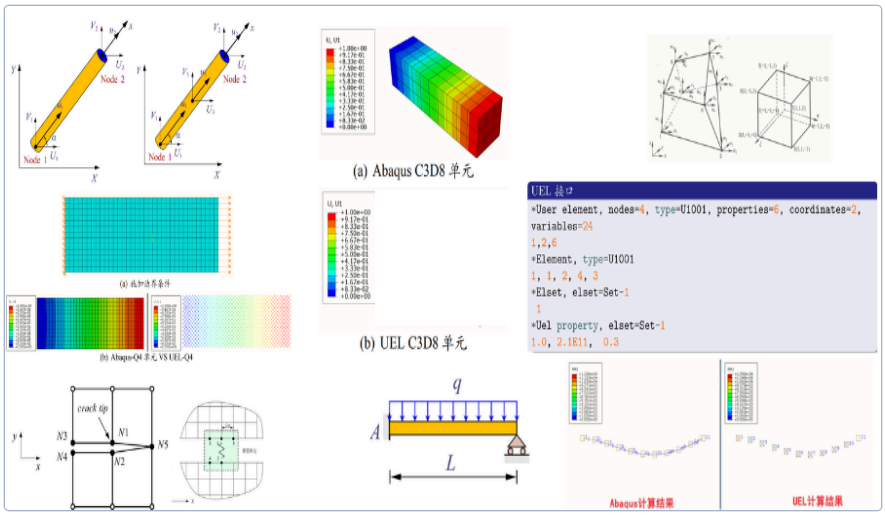


# Abaqus 子程序之 UEL 趣味入门教学

# Abaqus Subroutine UEL Entertaining Introduction Teaching

共15章节 (更新至21) 7小时3分钟 Total 15 chapters (updated to 21) 7 hours 3 minutes

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介绍 Introduction 章节 Chapter 评论 6 Comment 6

该课程是木木同学自接触UEL以来，积攒下来的学习心得，在这里分享给大家。围绕着有限元理论和Fortran程序的数值实现过程讲解，主要分享UEL实现的过程，最终获得位移结果，对于非线性过程等暂未涉及，请看清课程说明进行购买！

This course is the learning experience accumulated by Mumu since he first contacted UEL. Here, he shares his insights with everyone. It explains the finite element theory and the numerical implementation process of Fortran programs, mainly sharing the process of UEL implementation, and finally obtaining displacement results. Nonlinear processes are not covered yet, please read the course description before purchasing!

**课程内容**：从UEL内部实现原理入手，逐渐过渡到单元的编写，有限元常用的杆系单元（弹簧、杆、梁）、平面单元（三角形单元、等参四边形单元）、空间单元（C3D8实体单元），以及如何在INP中引入外部文件、断裂单元构造等，都会逐一讲解。

Course Content: Starting from the internal implementation principles of UEL, gradually transitioning to the writing of elements, commonly used finite element beam elements (springs, rods, beams), plane elements (triangular elements, isoparametric quadrilateral elements), and spatial elements (C3D8 solid elements), as well as how to introduce external files in INP and construct fracture elements, all will be explained one by one.

易公子 Easy Master
硕士 Master's Degree

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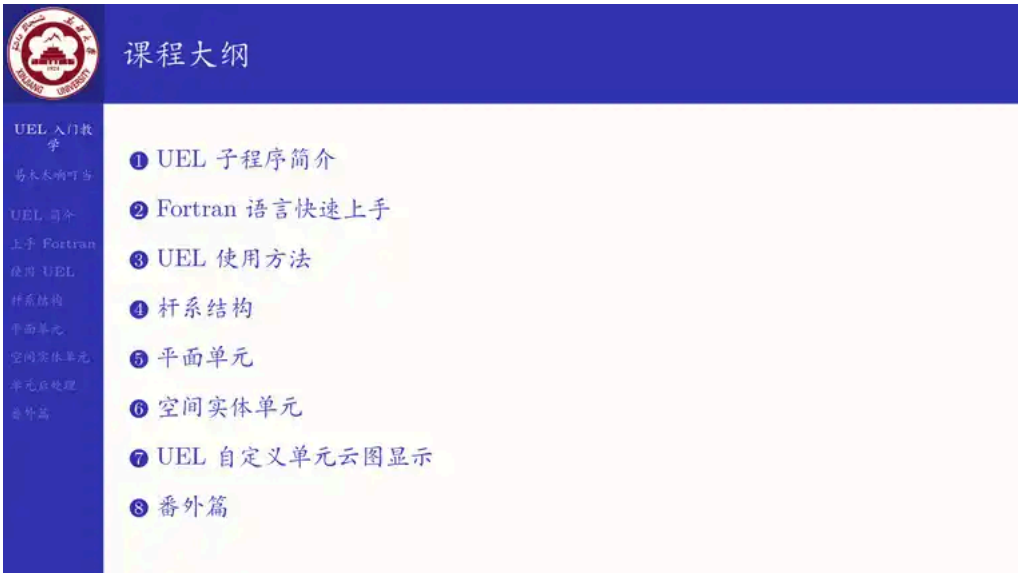


尽量使用容易让人理解的语言讲述，争取让有限元基础薄弱的人群也可以听懂，会用，会改代码，代码对应哪些公式，也会拆下来揉碎了，展现给大家，本系列课程主要针对人群：想要入门UEL子程序的初学者，高手勿进！

Try to use language that is easy to understand, and strive to make it possible for people with a weak foundation in finite element analysis to understand, use, and modify the code. It will also explain which formulas the code corresponds to and break it down for everyone to see. This series of courses is mainly aimed at beginners who want to enter the UEL subroutine, and experts are not recommended to participate!

木木想要的目的是带入大家入门UEL，对于具体的案例，如内聚力单元、XFEM、晶体塑性的编写，可以在基础理论的基础上进行了解，一定要在源代码的基础上，会看，会改，会用即可，不要试图自己从0开始写！完全没必要！

The goal of Mumu is to guide everyone into UEL. For specific cases, such as the writing of cohesive elements, XFEM, and crystal plasticity, one can understand them on the basis of basic theory. It is necessary to be able to read, modify, and use the source code, but there is no need to try to write from scratch! It is completely unnecessary!

课程附件包含木木同学整理的UEL学习资源，已在视频中介绍，随着课程的推进及时更新，请持续关注~

The course attachment includes the UEL learning resources compiled by Mumu student, which have been introduced in the video and will be updated in a timely manner as the course progresses, please keep an eye on it~

FORTRAN　ABAQUS二次开发 ABAQUS secondary development　子程序 Subroutines

半导体器件的功率循环及热可靠性测试　基于Catia V5、ANSY...的正二十面体模态分析　Power cycling and thermal reliability testing of semiconductor devices based on Catia V5 and ANSYS modal analysis of a regular dodecahedron

UEL%E8%AF%BE%E7%A8%8B%E9%99%84%E4%BB%B6.z...　下载 Downlo ad

**课程章节**　共15章节 (更新至21)　Course Sections - Total 15 chapters (Updated to 21)

| | |
|---|---|
| 章节1: 1. 课程简介 Chapter 1: 1. Course Introduction | 9分31秒 9 minutes 31 seconds |
| 章节2: 2. UEL工作原理 Chapter 2: 2. UEL Working Principle | 11分50秒 11 minutes 50 seconds |
| 章节3: 3. Fortran语言快速上手 Chapter 3: 3. Quick Start to Fortran... | 18分16秒 18 minutes and 16 seconds |
| 章节4: 4. 学会修改INP文件 Chapter 4: 4. Learn to modify the INP file | 11分42秒 11 minutes and 42 seconds |
| 章节5: 5. 1D 弹簧单元基础理论... | 27分2秒 27 minutes and 2 seconds |
| 章节6: 6. 手撕 1D 弹簧单元UEL子程序... | 29分24秒 29 minutes 24 seconds |
| 章节7: 7. 1D 弹簧单元基础理论（重录版）... | 32分58秒 32 minutes 58 seconds |
| 章节8: 8. 手撕 1D 弹簧单元UEL子程序（重录版）... | 25分38秒 25 minutes and 38 seconds |
| 章节9: 9. 2D 线性杆单元基础理论... | 16分26秒 16 minutes and 26 seconds |
| 章节10: 10. 手撕 2D 线性杆单元UEL子程序... | 38分36秒 38 minutes 36 seconds |
| 章节11: 11. 高阶 2D 杆单元基础理论... | 13分50秒 13 minutes 50 seconds |
| 章节12: 12. 手撕高阶 2D 杆单元UEL子程序... | 16分19秒 16 minutes 19 seconds |
| 章节13: 13.梁单元基础理论讲解.mp4 Chapter 13: Basic Theory Explanation ... | 19分20秒 19 minutes and 20 seconds |
| 章节14: 14.手撕梁单元UEL子程序.mp4... | 20分10秒 20 minutes and 10 seconds |
| 章节15: 15.CST常应变单元理论讲解.mp4... | 33分58秒 33 minutes and 58 seconds |
| 章节16: 16.手撕CST单元UEL子程序.mp4... | 19分27秒 19 minutes and 27 seconds |
| 章节17: 17.等参四节点平面应力单元理论讲解.mp4... | 15分41秒 15 minutes 41 seconds |
| 章节18: 18.手撕等参四节点单元UEL子程序.mp4... | 14分2秒 14 minutes and 2 seconds |
| 章节19: 19.空间实体C3D8单元理论讲解.mp4... | 12分51秒 12 minutes and 51 seconds |
| 章节20: 20.手撕C3D8 UEL子程序.mp4... | 17分20秒 17 minutes 20 seconds |
| 章节21: 21.断裂单元的构造思想.mp4 Chapter 21: 21. The Construction Idea ... | 19分26秒 19 minutes and 26 seconds |

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写优质评论，得金币奖励，评论10字以上，更有机会成为热评！

发表 Publish

用户_80143 User_80143

课程录屏有问题啊，不解决一下吗 The course recording has a problem, should it not be resolved?

3月24日 March 24th 评论 点赞 Comment and Like

harder & luckier

老师您好，请问您知道隐式动力学rhs的计算公式到底是哪个吗，包含质量矩阵和阻尼矩阵的话

Teacher, do you know which formula for the calculation of the implicit dynamics rhs is, including the mass matrix and the damping matrix?

2024年11月1日 November 1, 2024 评论 点赞 Comment and Like

小铭同学_2098 Xiao Ming, student_2098

这是啥啊，能不能用点儿例子，一直在说代码 What is this, can you give some examples, always talking about code

2024年10月10日 October 10, 2024 评论 点赞 Comment and Like

Pluto_2390

课程567节不完整 Course 567 is incomplete

2024年6月24日 June 24, 2024 评论 点赞 Comment and Like

用户_18852 User_18852

请问一下，例如在结构中使用了自定义的弹簧单元，怎么获取它的内力数据呢?

How can I obtain the internal force data of a custom spring element used in the structure?

2023年8月15日 August 15, 2023 评论 点赞 Comment and Like

巨大儿

请问木木老师，使用uel时可以同时使用abaqus的各类contact吗，比如general contact。

2023年4月18日 评论 2 点赞

有限元先生 回复 巨大儿

定义接触需要定义各种surface，但是uel无法直接定义surface，因为abaqus不知道uel内部的形函数，因此无法直接在uel表面使用contact。

2024年1月16日 评论 点赞

易公子 回复 巨大儿

你可以试试，我还没有试过接触

2023年4月21日 评论 点赞

## 推荐阅读

**基于Matlab的J积分与等参单元求解应力强度因子**

易公子 免费

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