



Course Outline (Higher Education)

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|-------------------------|--------------------------|
| School: | School of Education |
| Course Title: | MATHEMATICS CURRICULUM 2 |
| Course ID: | EDDDE3101 |
| Credit Points: | 15.00 |
| Prerequisite(s): | (EDBED3028 or EDDDE3001) |
| Co-requisite(s): | Nil |
| Exclusion(s): | (EDBED3128) |
| ASCED: | 070301 |

Description of the Course:

This course examines the history of Mathematics education as well as the congruence between pedagogy, curriculum and assessment. Pre-service teachers will be required to explore specific issues relating to current practice in the teaching of Mathematics in Years 7-10 and 11 and 12. They will be required to design and critically evaluate learning and assessment tasks, self-evaluate pedagogy, and conduct research in to key issues related to learning Mathematics in school. A particular focus will be the differentiation of learning content for learners in Mathematics.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

| Level of course in Program | AQF Level of Program | | | | | |
|----------------------------|----------------------|---|---|---|---|----|
| | 5 | 6 | 7 | 8 | 9 | 10 |
| Introductory | ■ | ■ | ■ | ■ | ■ | ■ |
| Intermediate | ■ | ■ | ■ | ■ | ■ | ■ |
| Advanced | ■ | ■ | ✓ | ■ | ■ | ■ |

Learning Outcomes:**Knowledge:**

- K1.** Demonstrate an understanding of inclusive strategies for Mathematics at a secondary level.
- K2.** Develop an understanding about processes of acceleration and remediation in Mathematics.
- K3.** Demonstrate understanding of contemporary curriculum documents and guidelines relevant to teaching Mathematics in years 7-10 and in VCE.
- K4.** Understand the congruence between pedagogy, curriculum and assessment.
- K5.** Demonstrate understanding of effective teaching strategies for Mathematics at the secondary level.

Skills:

- S1.** Write lesson plans and activities appropriate to a particular level of mathematics.
- S2.** Research and present historical and contemporary issues in Mathematics education.
- S3.** Identify and examine specific issues relating to current practice in the teaching of Mathematics in Years 7-10 and the VCE.
- S4.** Design forms of assessment consistent with curriculum documents.
- S5.** Design learning that caters for a range of abilities and interests.

Application of knowledge and skills:

- A1.** Produce, present, examine and evaluate an assessment task related to a real world mathematical problem.
- A2.** Design, teach and self-evaluate a lesson plan based around the theme of acceleration or remediation.
- A3.** Research and write a position paper related to a key issue in the teaching and learning of Mathematics.

Course Content:

Topics to be covered

- Developing content for diverse learners.
- Examine a range of effective teaching strategies in mathematics including group work.
- Linking mathematics curriculum content to mathematical activities.
- Making links to previous mathematical knowledge.
- Organising content into effective learning sequences.
- Identifying strategies to support inclusion in mathematics.
- Engagement strategies for students of all abilities.
- Differentiation of activities to cater for students of all abilities
- Using diagnostic assessment to determine groupings within classes.
- Developing assessments at a VCE level.
- Giving feedback to students and responding to feedback from colleagues.
- Equity issues faced by Australian mathematics educators.

Values:

- V1.** Develop an understanding of the nature and place of Mathematics as a “critical filter for further education and training”.
- V2.** Consider the inclusiveness or otherwise of Mathematics and the values we model and explicitly teach.
- V3.** Value the place of mathematics and mathematics education in society;

V4. Enjoy teaching and learning mathematics.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

| Graduate attribute and descriptor | | Development and acquisition of GAs in the course | |
|-----------------------------------|--|--|-----------------------|
| | | Learning Outcomes (KSA) | Assessment task (AT#) |
| GA 1 Thinkers | Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions. | K3; K5; S1; S4; A1 | AT1 |
| GA 2 Innovators | Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change. | K3; S2; A3 | AT3 |
| GA 3 Citizens | Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately. | K1; K4; S5; A2 | AT2 |
| GA 4 Communicators | Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand. | K2; S1; A2 | AT2 |
| GA 5 Leaders | Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices. | K1; K5; S5; A2 | AT2 |

Learning Task and Assessment:

| Learning Outcomes Assessed | Learning Tasks | Assessment Type | Weighting |
|--|--|--------------------|-----------|
| K1, K3, K5 S1, S4, S5 A1 APST 2.1, 4.2, 5.1 | Develop and create an assessment task for a particular year audience. This assessment task will have a real world focus and will be further refined after feedback. | Classroom Resource | 30-40% |
| K2, K3, K4 S1, S5 A2 APST 1.5, 2.2, 2.3, 3.2, 3.3, 4.1 | Self-Study in Mathematics: Research, design, present and self-evaluate a learning sequence based around the theme of acceleration or remediation. | Lesson plan | 30-40% |
| K3 S2, S3 A3 APST 4.1 | Position paper related to a key issue in the teaching and learning of Mathematics. The audience for this position paper is a School Council. This position paper will examine contemporary research and make recommendations that fit with research. | Academic Essay. | 20-30% |

Adopted Reference Style:

APA

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)